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EXHIBITS

TRANSCRIPT OF RECORD

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1954

No. 162

UNITED STATES OF AMERICA, APPELLANT

vs.

E. I. DU PONT DE NEMOURS AND COMPANY

APPEAL FROM THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF DELAWARE

FILED JUNE 23, 1954

PROBABLE JURISDICTION NOTED OCTOBER 14, 1954

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23	11/28/31, Independent Grocers Interviews on Wards Cakes	41	4204
24	10/16/31, Schaible's Bakery Trade Report	43	4206
25	8/8/32, Richmond Baking Co. Trade Report	44	4207
26	Jan.–Feb., 1932, Great A. & P. Tea Co. Trade Report	45	4208
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28	5/19/32, Purity Bakeries Corp. Trade Report	47	4210
29	11/1/32, Goody Kake Co. Trade Report	48	4211
30	1/5/33, Bulletin—Standard Bread Wrapping Machine	49	4212
31	1/27/33, Bulletin, Use of M. S. T. on Hayssen Machines	52	4215
32	1/9/33, Brown Cracker & Candy Co. Trade Report	56	4219
33	3/20/33, Brown Cracker & Candy Co. Trade Report	57	4220
34	10/30/33, Brown Cracker & Candy Co. Trade Report	58	4221
35	2/7/33, Knott Baking Co. Trade Report	59	4222
36	5/3/33, Dietzen's Bakery Trade Report	60	4223
37	5/22/33, Grennan Baking Co. Trade Report	61	4224
38	6/8/33, Pittsford Purity Pie Co. Trade Report	62	4225
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40	10/27/33, Holsum Baking Co. Trade Report	64	4227
41	11/15/33, Acme Pie Co. Trade Report	65	4228
42	12/20/33, Wortz Biscuit Co. Trade Report	66	4229
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52	1/17/40, Experiment—Fruit Cookies in Bags of Cellophane	119	4276
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54	4/7/41, Ward Baking Co. Trade Report	127	4284
55	9/10/41, Ward Baking Co. Trade Report	128	4285
56	11/24/41, Bulletin—Variety Bread Situation	130	4287
57	6/14/45, C. F. Brown to W. G. Hunter	135	4290
58	2/20/48, Holsum Bakers, Inc., Trade Report	137	4292
59	7/8/48, Bold Baking Corp. Trade Report	138	4293
60	Sept. '48, Food Industries Ad—Riegel	139	4294
61	10/12/48, Kannapolis Bakery Trade Report	140	4295
62	5/6/49, Colonial Biscuit Co. Trade Report	141	4296
63	5/23/49, Ontario Biscuit Co. Trade Report	144	4299
64	6/2/49, Ontario Biscuit Co. Trade Report	146	4301
65	6/2/49, Union Biscuit Co. Trade Report	148	4303
66	6/2/49, Davis Lee Baking Co. Trade Report	149	4304
67	8/15/49, Analysis of Qualities of Wax Paper	150	4305
68	9/27/49, Purity Biscuit Co. Trade Report	151	4306
69	9/28/49, Quality Biscuit Co. Trade Report	152	4307
70	Oct. '49, Modern Packaging Article	153	4308
71	10/13/49, Callen Baking Co. Trade Report	162	4317
72	10/24/49, General Baking Co. Trade Report	163	4318
73	1/4/50, Wm. Friehofer Baking Co. Trade Report	165	4320
74	Aug. '31, Extract from Market Report—Use of Cellophane in the Candy Industry	167	4322
75	Information Bulletin No. 74-GG, Machine Wrap Candy	171	4326
76	10/12/32, Mars, Inc., Trade Report	173	4328
77	9/18/33, Schutter Johnson Candy Co. Trade Report	174	4329
78	6/18/34, Experiment—M. T. Cellophane v. Glassine Bags on Salted Peanuts	175	4330
79	6/20/35, Bulletin—Trend from Bulk to Individual Wrap Candy	181	4336
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81	3/8/37, Bulletin—A New Offensive Needed on Candy Bars	184	4339
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83	Oct. '39, Modern Packaging Ad—Pliofilm	187	4342
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88	11/11/40, Frantz Candies, Inc., Trade Report	205	4360
89	2/25/41, Bulletin—Candy Bar Market	207	4362
90	4/24/47, Kraft Foods Co. Trade Report	208	4363
91	11/19/47, E. J. Brach & Sons Trade Report	209	4364
92	2/10/32, Curtiss Candy Co. Trade Report	210	4365
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94	7/25/33, General Candy Co. Trade Report	212	4367
95	11/18/47, General Candy Co. Trade Report	213	4368
96	11/18/47, John Horne Co. Trade Report	214	4369
97	June '48, Food Industries Ad—Riegel	215	4370
98	12/23/47, Los Angeles Nut House Trade Report	216	4371
99	6/10/48, Charms Co. Trade Report	217	4372
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102	1/7/49, Planters Nut & Chocolate Co. Trade Report	220	4375
103	8/2/49, Curtiss Candy Co. Trade Report	222	4377
104	8/23/49, Letter, W. J. Harte to R. J. Crowley	223	4378
105	7/28/27, Letter, P. F. Webster to R. M. Horsey	224	4379
106	3/22/29, Letter, W. H. Charch to Clarence Birdseye	225	4380
107	June '29, Industrial and Engineering Chemistry Article—Frozen Foods	229	4384
108	7/21/31, Letter from Clarence Birdseye to O. F. Benz	233	4388
109	July '34, Modern Packagine Article—Frozen Foods	234	4389
110	11/16/39, Paper Trade Journal Article—Frozen Foods	240	4395
111	3/9/39, Gorton Pew Fisheries Co.—Trade Report	243	4398
112	11/6/39, Gorton Pew Fisheries Co.—Trade Report	244	4499
113	11/16/45, W. J. Harte to R. J. Crowley	245	4400
114	Jan. '49, Protective Packaging of Frozen Foods Article	246	4401
115	Nov. '46, Extract—Frozen Foods Sales Test	250	4405
116	Sept. '48, Locker Management Article—What are the Better Wraps? What do they cost?	258	4413
117	1/26/48, A. D. Atterbury Co. Trade Report	262	4417
118	1/21/48, Snow Crop Marketers Trade Report	263	4418
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123	1/21/49, Cascade Frozen Food Trade Report	271	4426
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125	1/21/49, Pictsweet Foods, Inc., Trade Report	273	4428
126	2/7/49, W. J. Harte to H. C. Broems, et al	274	4429
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128	12/1/49, Pictsweet Foods, Inc., Trade Report	277	4432
129	11/14/49, Independence Produce Co. Trade Report	278	4433
130	June '49, OFF's Annual Packaging Review	279	4434
131	8/15/33, Piggly Wiggly Stores Trade Report	286	4441
132	11/4/47, Conn. Tomato Packers Trade Report	287	4442
133	12/4/47, Conn. Tomato Packers Trade Report	288	4443
134	Apr. '48, Pre-Pack-Age Ad—Pliofilm	289	4444
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137	Aug. '48, Modern Packaging Article—Produce Film Comparisons	292	4447
138	7/22/48, Dallas Co-op. Growers Trade Report	297	4452
139	8/18/48, G. Fava Fruit Co. Trade Report	298	4453
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142	11/7/49, J. J. Beaton Co. Trade Report	301	4456
143	5/10/50, J. J. Beaton Col Trade Report	302	4457
144	11/18/49 letter, C. A. Quinlan to M. Callender	303	4458
145	2/28/36, Experiment—Cellophane v. Foil Bags for Potato Chips	306	4461
147	Feb. '47, Modern Packaging Ad—Potato Chips	315	4467
148	2/18/48, Buffet Potato Chip Co. Trade Report	318	4470
149	8/3/48, Fritos Co. of Calif. Trade Report	319	4471
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161	8/31/48, La. State Rice Milling Co. Trade Report	335	4485
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163	10/24/33, Kellog Trade Report	337	4487
164	1/21/41, General Mills Trade Report	338	4488
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167	1/13/48, Budget Pack., Inc., Trade Report	341	4491
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169	July 1948, Modern Packaging Article—Dried Fruits	343	4493
170	Dec. 1949, Good Packaging Article—Saran for Prunes	346	4496
171	6/12/45, Kraft Cheese Co. Trade Report	350	4500
172	10/27/48, Albers Super Markets Trade Report	351	4501
173	6/6/49, Great A. & P. Tea Co. Trade Report	352	4502
174	12/13/40, Busalacchi Bros. Trade Report	355	4505
175	Aug. 1940, Food Industries Article—Pliofilm for Meat, New Wrapper Solves Problem for Packers	356	4506
176	1/2/48, Wm. Temple Co. Trade Report	359	4509
177	3/22/33, A. J. Kasper Co. Trade Report	360	4510
178	8/13/47, Colonial Coffee Co. Trade Report	361	4511
179	8/5/48, Colonial Coffee Co. Trade Report	362	4512
180	8/11/48, Horlick's Malted Milk Trade Report	363	4513
181	12/23/48, Duncan Coffee Co. Trade Report	364	4514
182	9/19/39, Chr. Hansen's Lab Trade Report	365	4515
183	5/22/40, Experiment—Cake Mix in Cellophane	366	4516
186	9/21/42, Taylor Reed Trade Report	375	4522
187	8/25/33, Northwestern & East Trade Report	376	4523
188	6/17/48, Capitol Sandwich Co. Trade Report	378	4525
189	5/6/32 letter, W. S. Carpenter, Jr., to L. A. Yerkes	379	4526
190	5/8/32 letter, L. A. Yerkes to W. S. Carpenter, Jr.	380	4527
191	5/19/32 letter, O. F. Benz to L. A. Yerkes	381	4528
192	5/19/32, Package Changes Submitted to Cigarette Companies	383	4530
193	7/18/34, Experiment—Cigarette Wrapping Materials	385	4532
194	7/16/37, Bulletin—Foil on Cigars	395	4542
195	8/2/37, Experiment—Foil v. Cellophane as a Cigar Wrap	398	4545
196	5/3/38, Bulletin—Cigar Protection	405	4552
197	1/13/39, Scotten-Dillon Co. Trade Report	407	4554
198	4/12/39, Scotten-Dillon Co. Trade Report	409	4556
199	2/27/39, Webster Eisenlohr Trade Report	411	4558
200	4/25/39, Bloch Bros. Trade Report	413	4560
201	11/20/39, Bloch Bros. Trade Report	415	4562
202	6/21/39, Crimson Coach Trade Report	417	4564
203	11/3/39, D. Forry Tobacco Co. Trade Report	419	4566
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205	12/2/46, W. J. Harte to R. J. Crowley et al	424	4571
206	2/4/48, Brown & Williamson Trade Report	425	4572
207	Mar. 1948, Modern Packaging Article—Foil for Cigarettes	427	4574
208	6/25/48, Brown & Williamson Trade Report	433	4580
209	5/4/49, S. Frieder & Sons Trade Report	434	4581
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211	8/17/39, International Handkerchief Trade Report	437	4584
212	3/27/41, Marshall Field Trade Report	439	4586

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214	1/26/48, Contour Hosiery Mills Trade Report	443	4590
215	5/27/48, Acme Hosiery Dye Works Trade Report	444	4591
216	2/21/49, Pepperell Mfg Co. Trade Report	445	4592
217	7/12/49, Pepperell Mfg. Co. Trade Report	446	4593
218	No date, Modern Packaging Ad—Lumarith	448	4595
219	5/8/31, Dwyer Paper Prod. Trade Report	449	4596
220	2/11/41, Marathon Paper Mills Trade Report	450	4597
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222	5/5/49, Kimberly-Clark Trade Report	453	4600
223	11/10/49, Kimberly-Clark Trade Report	454	4601
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225	11/8/39, Corona Corp. Trade Report	457	4604
226	12/5/39, Hoyt & Worthen Trade Report	458	4605
227	10/15/40, Clopay Corp. Trade Report	459	4606
229	8/23/49, Talon, Inc., Trade Report	462	4607
230	12/12/49, Talon, Inc., Trade Report	463	4608
231	May 1926, Du Pont Cellophane Ad—Bakers Helper and Bakers Weekly	464	4609
232	11/21/31, Aqualeen Ad	465	4610
233	Mar. 1933, Modern Packaging Ad—Waxed Paper	466	4611
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235	Aug. 1933, Modern Packaging Ad—Wrapping Machinery	468	4613
236	Sept. 1933, Modern Packaging Ad—Wrapping Machinery	469	4614
237	May 1934, Modern Packaging Ad—Wrapping Machinery	470	4615
238	May 1934, Modern Packaging Ad—Protectoid	471	4615
239	June 1934, Shellmar Products Ad—Shell-Pax	472	4617
240	July 1934, Modern Packaging Ad—Protectoid	474	4619
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244	Dec. 1939, Goodyear Pliofilm Ad	478	4623
245	Apr. 1940, Riegel Paper Ad	479	4624
246	June 1940, Riegel Paper Ad—Diafane	480	4625
247	Dec. 1940, Riegel Paper Ad—Frozen Food Papers	481	4626
248	Feb. 1941, Goodyear Pliofilm Ad	482	4627
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264	Dec. 1944, Milprint Ad, Good Packaging	498	4643
265	Feb. 1949, Packaging Parade Ad—Pliofilm	499	4644
266	Mar. 1949, Lumarith Ad, Meat Merchandising	500	4645
267	June 1949, Packaging Parade Ad—Vinylite	501	4646
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270	June 1949, Good Packaging Ad—Vis Queen	504	4649
271	6/27/49, Bakers Weekly Ad—Nashua	505	4650
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273	10/31/49, Goodyear Pliofilm Ad, Food Topics	507	4652
274	Dec. 1949, Du Pont Cellophane Ad, Good Packaging	508	4653
275	Dec. 1949, Packaging Parade Ad—Vis Queen	509	4654
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277	Dec. 1949, Packaging Parade Ad—Lumarith	511	4656
278	Jan. 1950, Packaging Parade Ad—Pliofilm	512	4657
279	Jan. 1951, Pliofilm Booklet—Goodyear	513	4658
280	Feb. 1951, Modern Packaging, Milprint Ad—Lithography	514	4659
281	Jan. 1950, Modern Packaging, Milprint Ad	515	4660
282	June 1940, Modern Packaging Ad—Lumarith	516	4661
283	(No date) Pre-Pack-Age Ad—Shellmar	517	4662
284	5/23/49, Bakers Weekly, Milprint Ad—Tifnee	518	4663
285	(No date) Saran Ad	519	4664
286	March 1950, Modern Packaging, Milprint Ad	522	4667
287	Nov. 1940, Modern Packaging, Aluminum Foil Ad	523	4668
288	Jan. 1941, Modern Packaging, Sylvania Cellophane Ad	524	4669
289	Jan. 1930, Food Industries Article—Packaging Materials	525	4670
290	Mar. 1935, Food Industries Article—Wrappings	536	4681
291	8/5/37, Extract—Nat. Bureau of Standards Publication Permeability of Membranes to Water Vapor	539	4684
292	(No date), Modern Packaging Encyclopedia—Metal Foils	545	4690
293	May 1944, Modern Packaging Article—Vegetable Parchment	549	4694
294	Nov. 1945, Modern Packaging Article—Glassine	555	4700
295	1947, Paper Year Book Article—Waxed Papers	559	4704
296	1947, Paper Year Book Article—Glassine and Greaseproof	562	4707
297	1947, Paper Year Book Article—Bag Stock	567	4712
298	8/13/24 letter, O. F. Benz to M. du P. Lee	570	4715
299	8/19/24 report, H. F. Whittaker to O. F. Benz	571	4716
300	8/28/24 letter, O. F. Benz to H. F. Whittaker	575	4720
301	9/5/24 letter, O. F. Benz to All Salesmen	576	4721
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304	1/13/28 letter, O. F. Benz to Pickens	585	4726
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307	5/14/30 letter, General Manager to Fin Sparre	591	4732
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311	12/4/31 letter, J. L. Riegel to G. W. Oehler	597	4738
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313	6/7/32 letter, B. M. May to B. L. Ward	599	4740
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316	6/8/32, Sales Record—Coated Papers	603	4744
317	8/10/32, Activities of Coated Paper Manufacturers	605	4746
318	8/10/32, Activities of Coated Paper Manufacturers	607	4748
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320	Sept. 1932, Activities of Coated Paper Manufacturers	609	4750
321	11/4/32, Activities of Coated Paper Manufacturers	611	4752
322	12/8/32, Activities of Coated Paper Manufacturers	614	4755

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325	11/1/38 letter, W. O. Hendersen to R. M. Horsey, et al	626	4767
326	10/9/39 letter, H. D. Harrington to A. F. Wendler	628	4769
327	11/20/39 letter, C. F. Brown to L. B. Steele	633	4774
328	12/13/44 letter, C. L. Blair to W. J. Harte	634	4775
329	2/24/45 letter, R. J. Crowley to W. J. Harte	635	4776
330	8/14/45 letter, L. B. Steele to M. C. Pollock, et al	636	4777
331	1/6/47 letter, A. Kunsman to P. H. Gabriel, et al	637	4778
332	3/13/47 letter, C. F. Brown to T. L. Hines	638	4779
333	8/18/47, Bulletin—Increases in Prices of Packaging Materials	639	4780
334	7/8/49 letter, C. A. Haley to A. Kunsman	640	4781
335	1950, Chart—Development of du Pont Cellophane Related to Tariff & Basic Moisture-proof Cellophane Patents 1924–1950	641	4782
336	1950, Table—Du Pont Cellophane—Average Annual Selling Prices	642	4783
337	12/11/24, Memo of L. A. Yerkes' Remarks at Directors Meeting	643	4784
338	2/2/25, Announcement of du Pont Price Reduction	645	4786
339	4/23/26, L. A. Yerkes to du Pont Cellophane Board	646	4787
340	1/15/27, Announcement of du Pont Price Reduction	654	4795
341	8/15/27, Announcement of du Pont Price Reduction	655	4796
342	5/15/28, J. E. Hatt to Ex. Comm	657	4798
343	5/21/28, Extract from President's Report to Board	658	4799
344	5/29/28, Announcement of du Pont Price Reduction	659	4800
345	11/26/28, Announcement of du Pont Price Reduction	660	4801
346	8/1/29, Announcement of du Pont Price Reduction	661	4802
347	12/31/29, Sales Data on Price Decline	662	4803
348	2/1/30, Announcement of du Pont Price Reduction	663	4804
349	3/2/31, Announcement of du Pont Price Reduction	664	4805
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351	5/2/32, Announcement of du Pont Price Reduction	666	4807
352	12/23/32, Extract from President's Report to Board	667	4808
353	1/11/33, Announcement of du Pont Price Reduction	668	4809
354	5/14/34, Announcement of du Pont Price Reduction	669	4810
355	6/19/34, Extract from President's Report to Board	670	4811
356	1/22/35, Extract from President's Report to Board	671	4812
357	1/7/35, Announcement of du Pont Price Reduction	672	4813
358	1935, Chart—Pound Price of Roll Stock "Cellophane" Cellulose Film 1924–1935	673	4814
359	4/22/35, Extract from President's Report to Board	674	4815
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361	5/1/37, Announcement of Price Increase on du Pont Colored	676	4817
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363	12/5/38, Announcement of du Pont Price Reduction	679	4820
364	10/30/39, Announcement of du Pont Price Reduction	680	4821
365	11/16/39, Extract—Monthly Report of Cellophane Division	681	4822
366	Nov. 1939, Extract—Monthly Report of Cellophane Division	684	4825
367	11/27/40 letter, J. E. Hatt to L. B. Steele	685	4826
368	4/28/41, Announcement of discontinuation of cash discount and decrease in gauge—du Pont	688	4829
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791	1951, Table—Du Pont Exports of Cellophane, 1940–1950, Inclusive, to Certain Countries	1677	5479
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815	5/27/41 letter, W. D. Lauerman to G. H. Andrews	1720	5512
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828	5/7/48, letter, Du Pont Invoice to G. W. Sohlberg	1769	5529
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853	10/28/49, letter, F. Thrane to G. H. Andrews	1796	5555
854	12/3/49, letter, O/Y ULKO A/B to E. I. du Pont Co	1797	5556
855	2/8/50, letter, G. E. Duncan to G. H. Andrews	1798	5557
858	3/22/32, letter, J. K. Jenney to W. H. Farmer	1805	5559
859	11/9/32, letter, J. K. Jenney to R. M. Horsey	1806	5560
860	8/7/34, letter, J. K. Jenny to London Office	1807	5561
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Exhibit No.		Original	Print
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1020A, B, & C	Rhinelander Price Sheets	2508	6041
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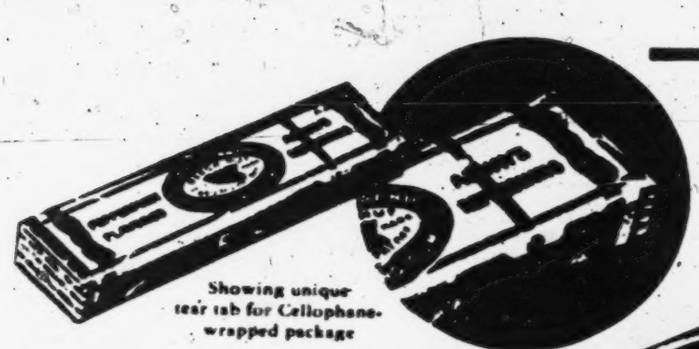
742	September, 1923, Smith-Cullen Report on Manufacture of Cellophane at Bezons, France	2533	6062

Defendant's Exhibit No. 235

Greater Convenience for the user!. . .

—an important Sales Appeal



Showing unique tear tab for Cellophane-wrapped package

Showing easy-opening tab for foil-wrapped package

THE sales appeal of greater convenience for the user is carried to the highest degree in these new packages, recently introduced by Beechnut and American Chicle.

Beechnut Gum is protected with Cellophane—Black Jack Gum with foil. In each case we were able to provide wrapping machines that produce a unique device for opening the package with the utmost ease. A tug on the tab instantly breaks the outer protective wrap.

This is but one example of how we can be helpful in providing a package with a new sales advantage.

Because of the great variety of products handled by our machines, and the varied styles of wrapping these machines can produce, we are unusually well equipped to assist in carrying out package improvements. If you are seeking greater sales through better packaging, consult us.

PACKAGE MACHINERY COMPANY, Springfield, Massachusetts
NEW YORK CHICAGO LOS ANGELES
Peterborough, England: Baker Perkins, Ltd.

Modern Packaging

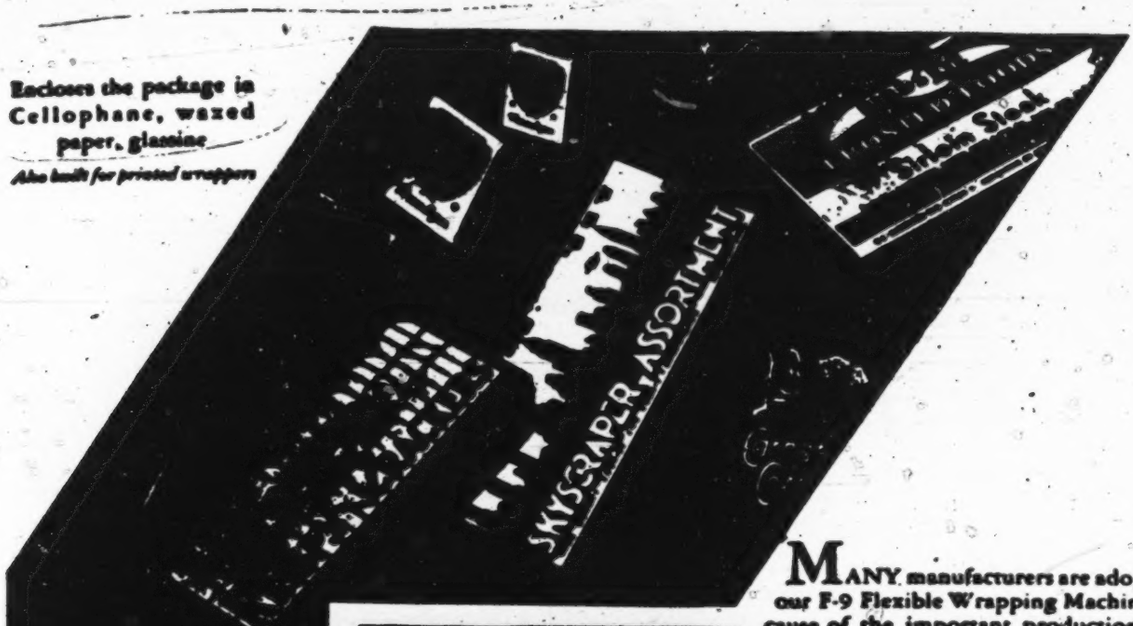
AUGUST, 1933 79

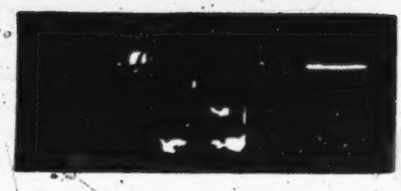
Defendant's Exhibit No. 236.

One machine wraps all these sizes—*and more!*

Encloses the package in Cellophane, waxed paper, glassine

Also built for printed wrappers





MANY manufacturers are adopting our F-9 Flexible Wrapping Machine because of the important production and merchandising advantages which this extremely versatile machine offers.

If your products are put up in various sized packages, you may find it advisable to wrap some or all of them on this adjustable machine, instead of operating a separate machine for each size.

In places where the volume on any one size is not large enough to justify machine wrapping, an adjustable machine may be installed to wrap all the various sized packages—thus obtaining the economies of machine production.

With the Flexible F-9 in your plant you can quickly and easily add new sizes to your line—either permanently or temporarily, to meet competitive conditions.

The F-9 offers all these advantages in the highest degree, because it accommodates the widest possible range of sizes. Handles Cellophane, glassine, waxed paper, printed paper wrappers, etc. If printed Cellophane is used, the machine is equipped with an electric eye which registers the printed design on the package.

Write for complete information.

PACKAGE MACHINERY COMPANY, SPRINGFIELD, MASSACHUSETTS

New York Chicago Los Angeles

Peterborough, England: Baker-Perkins, Ltd.

PACKAGE MACHINERY COMPANY

Modern Packaging

Defendant's Exhibit No. 237

Package Salesmanship

HOW often one product is selected in preference to another chiefly because of a superior package! The public has learned by experience that, in most cases, the better products are to be found in modern, attractive packages, scientifically designed to keep the goods in first-class condition.

Wide Possibilities in Package Design

Today you have a wider choice in type of package than ever before. You can design a package especially suited to your product, a package that has individuality and sales appeal.

Our machines are making packages with practically every known form of packaging material—plain Cellophane, printed Cellophane, printed paper wrappers, glassine, foil, etc.—and in a great variety of forms.

Lower Costs with Modern Machines

A package improvement does not necessarily mean increased cost. The very machines which make the improvement possible often lower costs because of their higher efficiency.

With our wide experience and intimate knowledge of modern trends, we can give you valuable assistance in carrying out your package improvements. Consult our nearest office.

PACKAGE MACHINERY COMPANY
Springfield, Massachusetts

New York Chicago Cleveland Los Angeles
Peterborough, England. Baker Perkins, Ltd.

Modern Packaging

Defendant's Exhibit No. 238

BETTER.....*because of its fuller transparency, greater protection*

Ordinary transparent window materials are visible, bubble and distort the shape of the box or carton. They may have the appearance of the product within because of their yellow cast

Protectoid windows conceal defects Protectoid's 100 transparency shows 100 sales pulling visibility

It's a Wrap

for cosmetics and drug store items, for candies or for dried fruits, Protectoid has no equal. It has no food value for vermin, mold spores or other forms of infestation.

PROTECTOID windows won't shrink!

Protectoid is a shrinkproof, sweatproof, waterproof, moistureproof, non-inflammable transparent cellulose acetate material. These superior qualities make Protectoid the ideal means for providing, simultaneously, protection and visibility. For carton and set-up box windows Protectoid offers the additional and paramount advantage of positive cementing to boxboard without distortion of the shape of the box or carton.

Protectoid, in the semi-moistureproof form, will not become foggy, for moisture will not condense on the inner surface of the wrapper. Its waterproof and greaseproof qualities will insure against the products within adhering to the box or carton top.

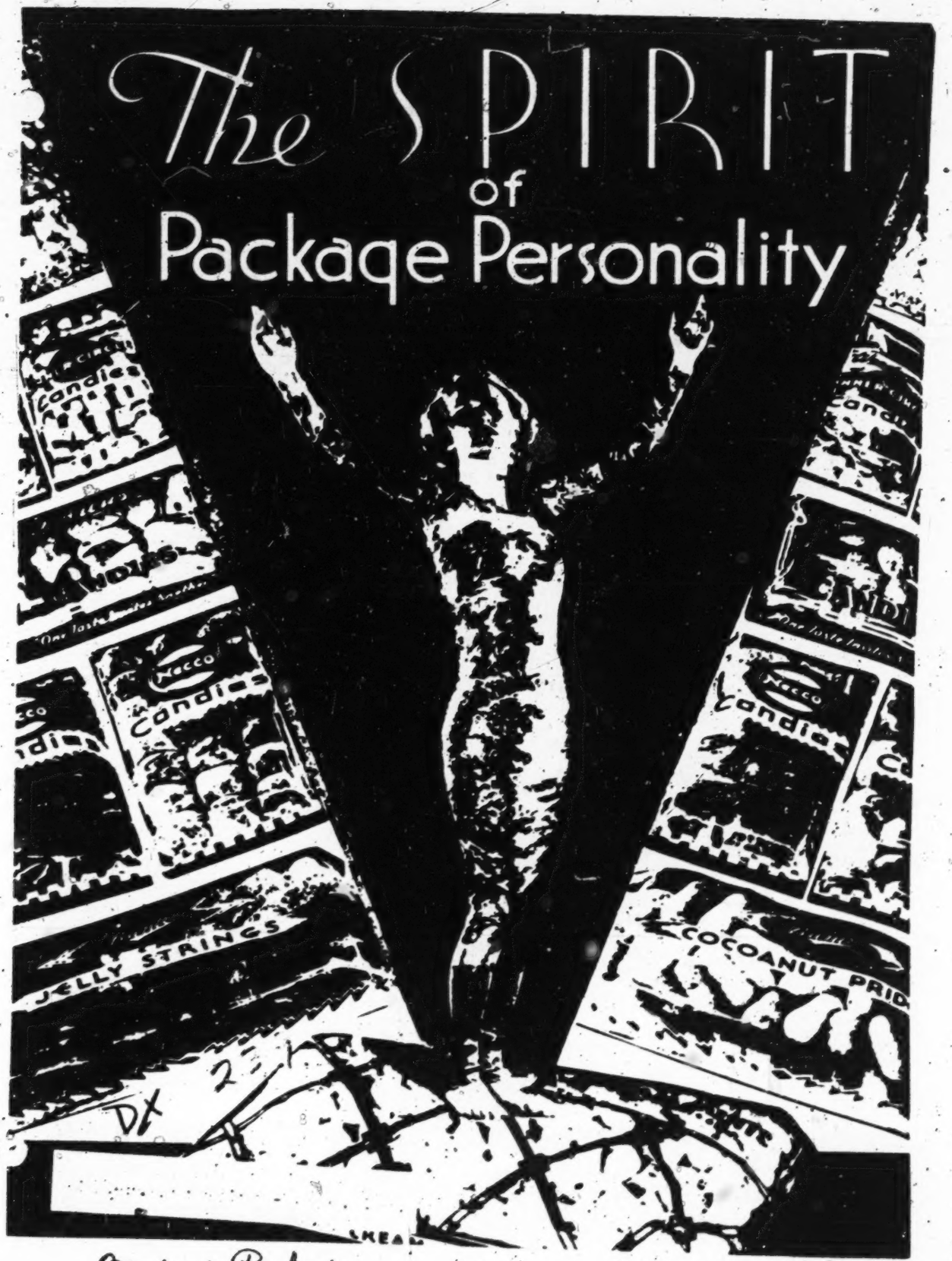
Protectoid is available in rolls or sheets and in thicknesses ranging from .00088 to .010 or heavier.

PROTECTOID
Trade Mark Reg U. S. Pat Off
is a Product of
CELLULOID CORPORATION
ESTABLISHED 1872
10 E 40th ST. NEW YORK

FOR GREATEST PROTECTION SPECIFY PROTECTOID

May, 1934

Defendant's Exhibit No. 239



Modern Packaging June 1934

Shell-Pax

(Shellmar's tailor-made rigid "Cellophane" Package)

Public Approval of package utility is obtained only after thorough and repeated penetration into the daily buying habits of millions of people . . . "Shell-Pax" has been tested an average of 100,000 times each day through the distribution in 1933 of over thirty million individual packages . . . with the demand exceeding double that rate in the first five months of 1934 Shellmar considers they have gained "public approval." Shell-Pax, their "Personality Package," meets every test for *convenience, simplicity, protection, persuasive influence* and *pleasing advertising intrusion!* . . . Quickly sensing this public appreciation of "Shell-Pax" such nationally known firms, as those whose products are illustrated, have utilized it for many of their most popular items . . .

"SHELL-PAX"

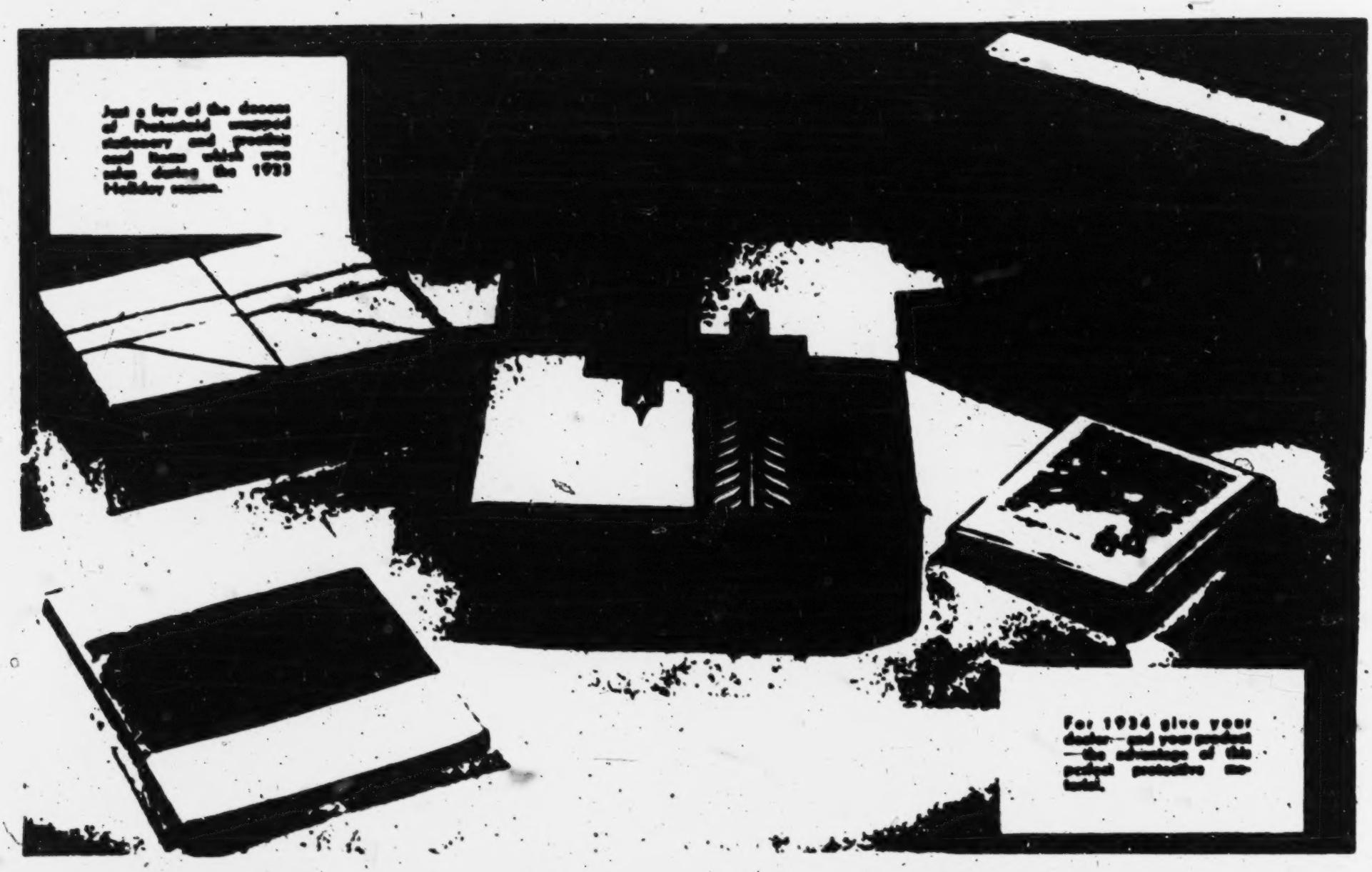
Quick Filling: One closure — sealing unnecessary.

Rigid Back: Permits uniform visible display.

Tailor-made: Holds contents firmly. Surprisingly

Defendant's Exhibit No. 240

CHECK . . . *these advantages Protectoid offers you . .*



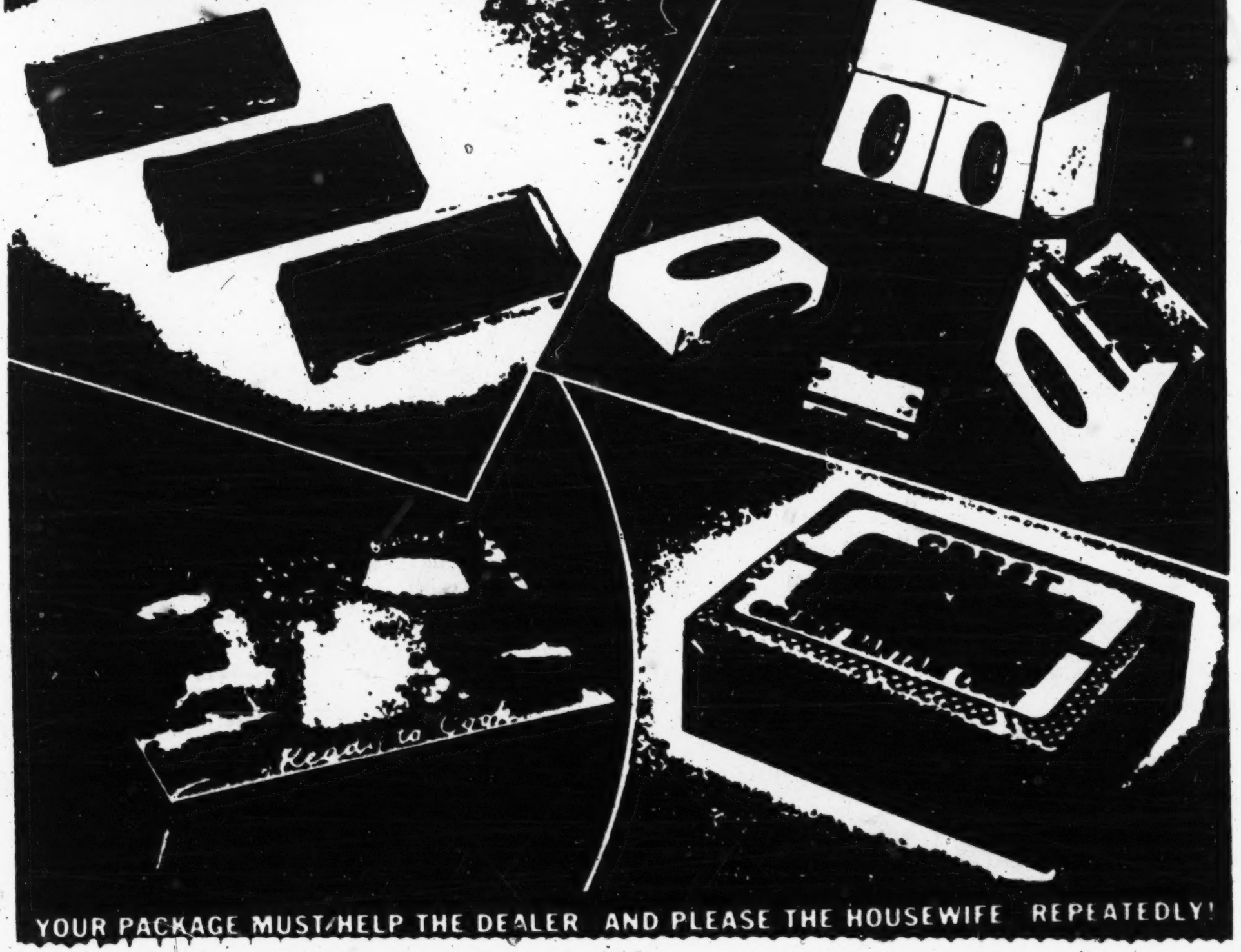
IDEAL for stationery and greeting cards!

Protectoid's ideal qualities have led dozens of stationery and greeting card manufacturers to specify

Protectoid is waterproof, shrinkproof, sweatproof and greaseproof. It can stand severe and frequent

Defendant's Exhibit No. 241

FROZEN FOOD PACKS MUST MAKE THE SECOND SALE!



Defendant's Exhibit No. 242

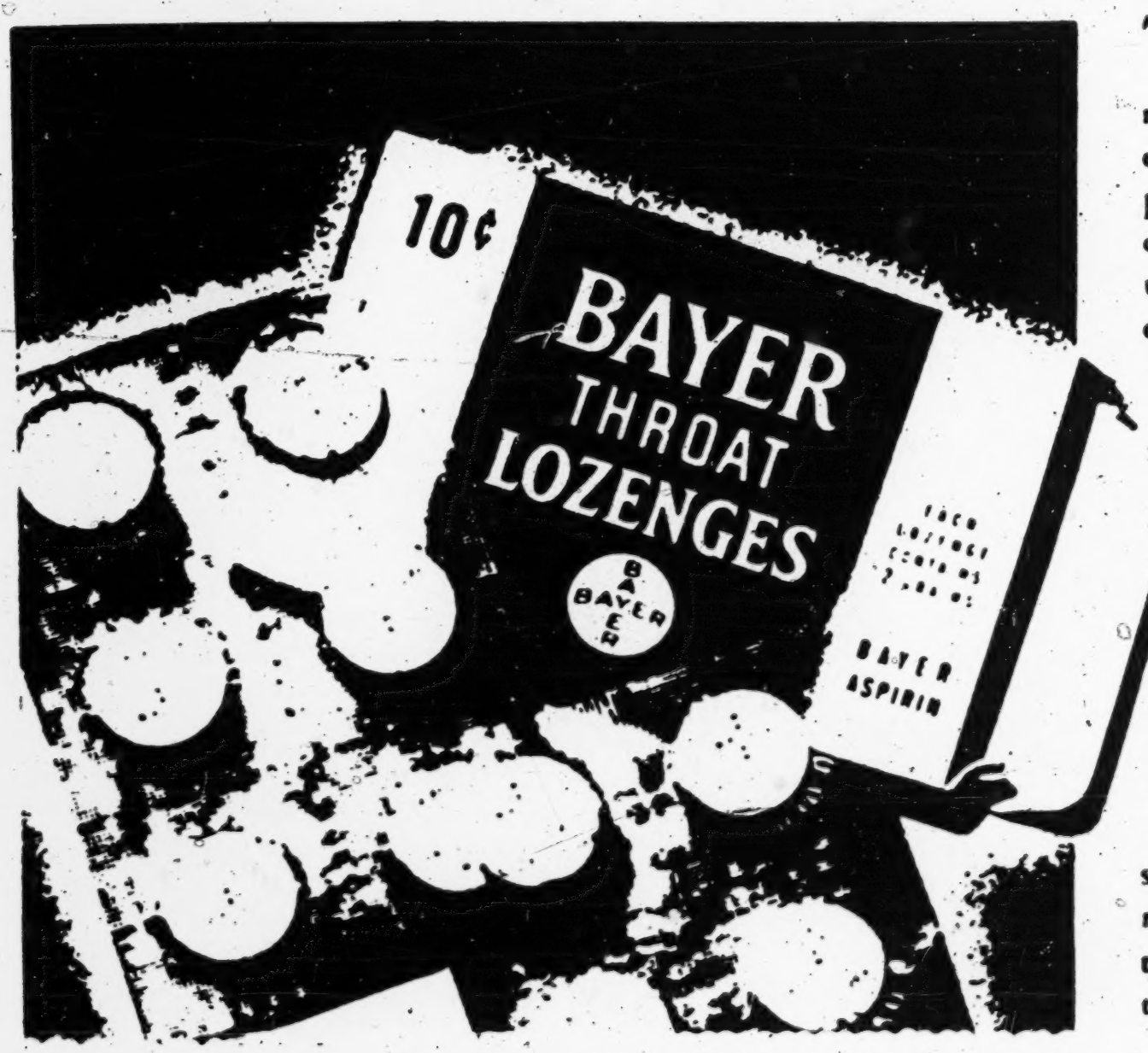
AUTOMATICALLY WRAPPED AND SEALED by this high speed packaging machine built by STOKES & SMITH CO., PHILADELPHIA, PA.

TRIX is a new crisp "bubbled corn" confection—the Pliofilm* inner wrapper that safeguards its rubber's natural flexibility and resistance to moisture.

Defendant's Exhibit No. 243

NOW *Truly Protective* PACKAGING FOR FINE PHARMACEUTICALS

and all other products whose reputation and efficacy depend upon unvarying high quality



THE tablets you see here are *individually* sealed in moisture-vapor-airtight pockets of Pliofilm* — *individually* protected against handling, dust and moisture-absorption until each pocket is separately opened by the consumer.

This unique Pliofilm packaging enhances the appearance of the product, insures absolute cleanliness and safeguards it from loss of strength, efficacy, or flavor.

Pliofilm is the only transparent wrapping that offers such complete protection because it far excels other sheet materials in resistance to moisture, tearing and puncturing. It is both odorless and tasteless — and so waterproof

✓ Defendant's Exhibit No. 244

Amazing New STRETCH-WRAP *Process*

packages odd-shaped products "skintight"—up to 10 times faster!

ONE OPERATION — In ... heated sheet of ... wound prod... sealing closure

HERE is the biggest packaging news in years for all manufacturers of irregular-shaped products that require protection from dust, when heated—*and increasing in strength and tear-resistance at the same time.*

Defendant's Exhibit No. 245

Design YOUR PACKAGES INSIDE OUT

It's the outside of your package that should help to attract attention and create initial sales — but it's what the customer finds *inside* the package that determines whether he will buy it again. Volume sales are repeat sales, and they can't be built with a package that permits leakage, breakage, rancidity, mold, sogginess or any other defect

tion in 1933 of over thirty million individual packages . . . with the demand exceeding double that rate in the first five months of 1934 Shellmar considers they have gained "public approval." Shell-•Pax, their "Personality Package," meets every test for *convenience, simplicity, protection, persuasive influence* and *pleasing advertising intrusion!* . . . Quickly sensing this public appreciation of "Shell-Pax" such nationally known firms, as those whose products are illustrated, have utilized it for many of their most popular items . . .

"SHELL-PAX"

Quick Filling: One closure — sealing unnecessary.

Rigid Back: Permits uniform visible display.

Tailor-made: Holds contents firmly.

Surprisingly low in cost.

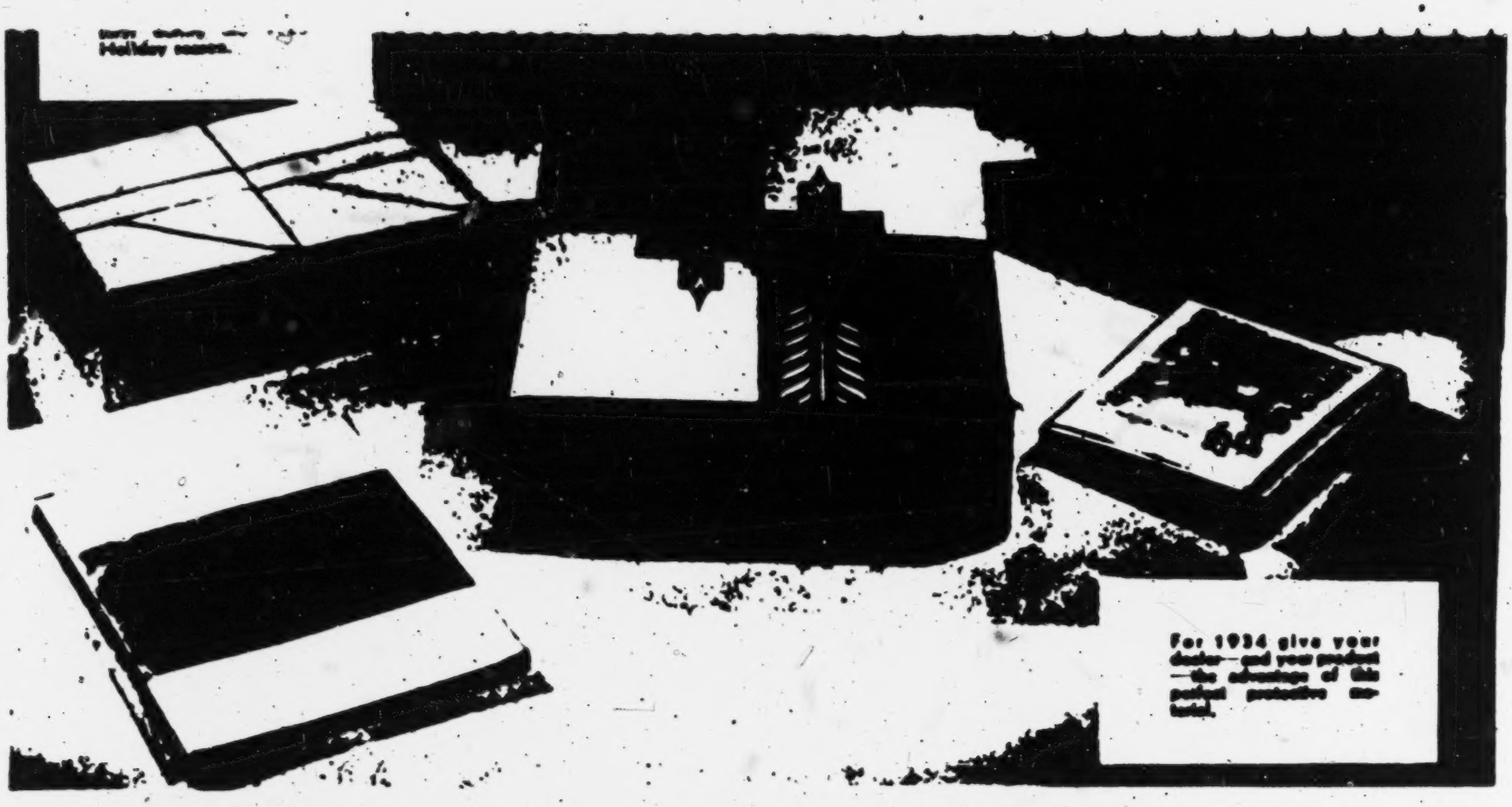
▼

SHELLMAR PRODUCTS COMPANY

ADMINISTRATIVE OFFICES
[illegible] W. 38th Place, Chicago, Ill.

WESTERN DIVISIONAL OFFICES
612 Merchants Exchange Bldg., San Francisco, Cal.

EASTERN DIVISIONAL OFFICES
1020 Empire State Bldg., New York, N. Y.



IDEAL for stationery and greeting cards!

Now Cut to Size

Protectoid may now be had in sheets pre-cut to size and in diamond and die-cut shapes best suited to your wrapping requirements.

Protectoid's ideal qualities have led dozens of stationery and greeting card manufacturers to specify its exclusive use, for Protectoid combines beauty of appearance, sheer, unlimited transparency and soft, attractive feel with easy workability and freedom from waste and spoilage.

Protectoid, unlike ordinary transparent wrapping materials, has so low a shrinkage factor that it may be wrapped tightly around any object without fear of subsequent breakage. This tight wrap insures perfect appearance and neatness at all times and results in tangible savings of wrapping material.

Protectoid has an extremely low factor of moisture absorption. In hot or damp weather it may be worked as easily and as quickly as when conditions are ideal. When stacked the sheets will easily separate and may be picked up, by hand or by machine, one at a time without danger of crinkle or spoilage.

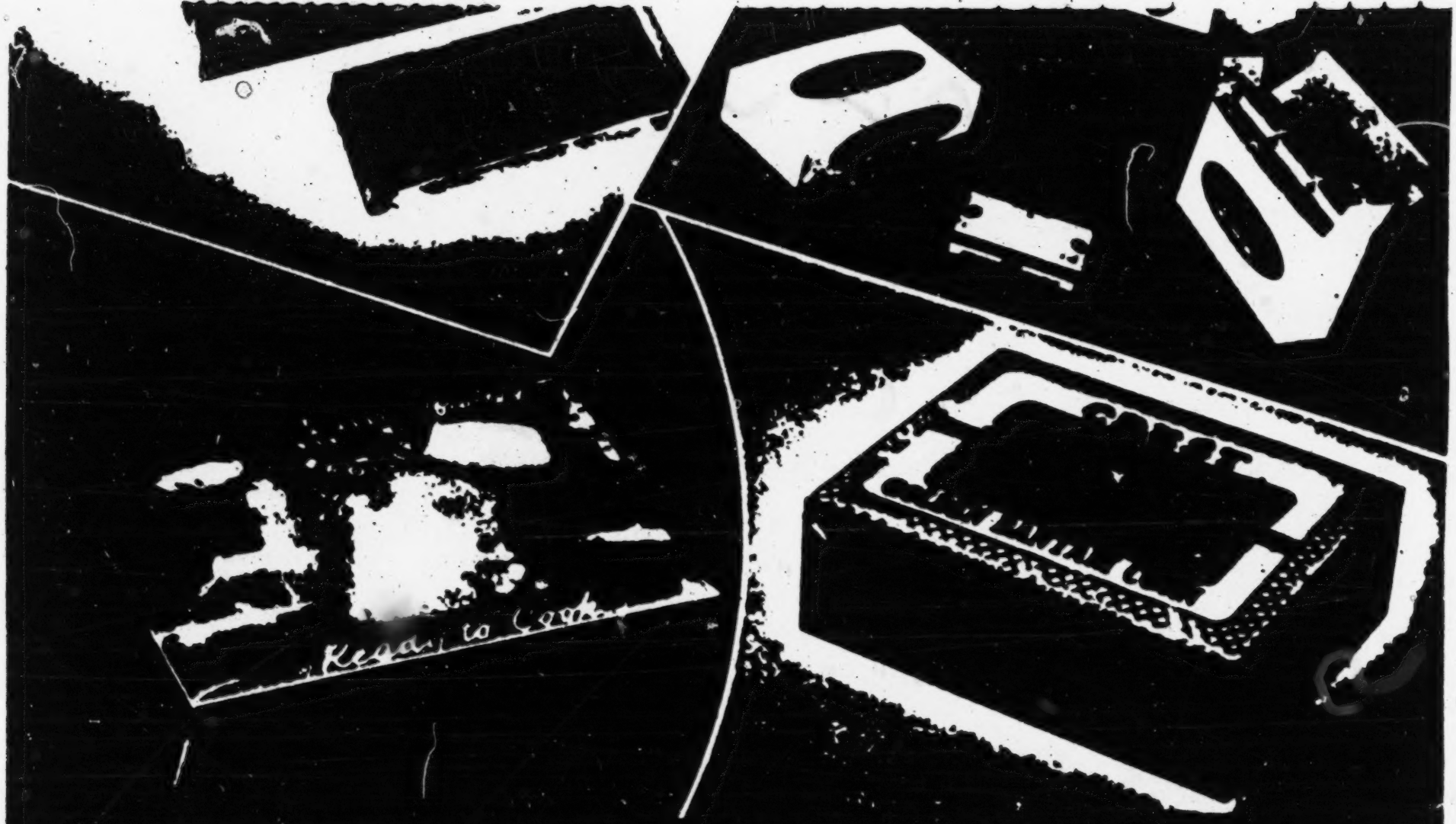
Protectoid is waterproof, shrinkproof, sweatproof and greaseproof. It can stand severe and frequent handling without showing wear or stains.

Protectoid is available in rolls or sheets and in thicknesses ranging from .00088 to .010 or heavier.

PROTECTOID
Trade Mark Reg U S Pat Off.
is a Product of
CELLULOID CORPORATION
ESTABLISHED 1872
10 E. 40th ST. NEW YORK

FOR GREATEST PROTECTION SPECIFY PROTECTOID

July 1934



YOUR PACKAGE MUST HELP THE DEALER AND PLEASE THE HOUSEWIFE REPEATEDLY!

He wants

Quick turnover
Self-selling packages
Maximum eye-appeal
Minimum investment

She wants

Highest quality
Attractiveness
Appetizing appearance
Visibility

HERE ARE three modern packages which are pleasing both dealers and housewives. These were developed by Du Pont in cooperation with the individual packers. Note, too, the shipping containers which deliver convenient sales units to the dealers in perfect condition.

Cash in on the years of experience of Du Pont chemists and engineers in this industry. Just write: Product Development Section, "Cellophane" Division, Du Pont, Wilmington, Del., for practical suggestions on *your problems* of economy, speed, flexibility and maximum protection and cost estimates based on the *new, recently lowered prices.*

Western Agents, Zellerbach Paper Company, San Francisco, California.

Cellophane
TRADE MARK

"Cellophane" is a trade-mark of E. I. du Pont de Nemours & Co., Inc.

DUPONT

Trix KEEPS FRESHER CRISPER IN Pliofilm

AUTOMATICALLY WRAPPED AND SEALED by this high speed packaging machine built by STOKES & SMITH CO., PHILADELPHIA, PA.

TRIX is a new crisp "bubbled corn" confection—the Pliofilm* inner wrapper that safeguards its flavor is a new trick in packaging. This odorless, tasteless, transparent wrapping material is moisture-vapor-air-tight—it keeps moisture-hungry products from absorbing moisture: keeps inherently moist goods moist.

In addition, Pliofilm has high dimensional stability, is little affected by atmospheric changes and is far less susceptible to splitting, cracking and tearing than most wraps. Made from rubber, it has all of rubber's natural flexibility and resistance to moisture.

These unique properties make Pliofilm especially suitable for machine packaging mass-production operations. Packaging machinery companies can now supply equipment for wrapping many types of products in Pliofilm.

If you have a packaging problem let us show you how *you can do it better with Pliofilm!* For samples and information write: Pliofilm Sales Department, Goodyear, Akron, Ohio.

IF YOU ARE PACKAGING—

- *Candy*
- *Crackers*
- *Cakes*
- *Cookies*
- *Cigars*
- *Cigarettes*
- *Coffee*
- *Pretzels*
- *Tobacco*
- *Popcorn*
- *Marshmallows*
- *Drink Powders*
- *Potato Chips*
- *Dried Fruits*
- *Nut Meats*
- *Pharmaceuticals*

— it will pay you to investigate Pliofilm

THE GREATEST NAME IN RUBBER

GOODYEAR

Modern Packaging. June 1939

Bayer Throat Lozenges unit-wrapped in Pliofilm by the Sanitape-Sealtite method developed by The Ivers-Lee Company, Newark, N. J.

THE tablets you see here are *individually* sealed in moisture-vapor-airtight pockets of Pliofilm* — *individually* protected against handling, dust and moisture-absorption until each pocket is separately opened by the consumer.

This unique Pliofilm packaging enhances the appearance of the product, insures absolute cleanliness and safeguards it from loss of strength, efficacy, or flavor.

Pliofilm is the only transparent wrapping that offers such complete protection because it far excels other sheet materials in resistance to moisture, tearing and puncturing. It is both odorless and tasteless — and so waterproof it is used for umbrellas!

If your product merits this *unfailing* protection against all possible contaminations, it will pay you to investigate Pliofilm. For full information, write: Pliofilm Sales Department, Goodyear, Akron, Ohio.

A Centennial Product of The Greatest Name in Rubber

THE BEST THINGS COME SEALED IN

GOODYEAR Pliofilm

*Trade mark of The Goodyear Tire & Rubber Company

Modern Packaging

September 1939

Ultra- Process

packages odd-shaped products "skintight"—up to 10 times faster!

THE OPERATION — In ... heated sheet of ... around prod... sealing closure ...

When sealed the Pliofilm wrap contracts to form a skintight, airtight, moistureproof package

HERE is the biggest packaging news in years for all manufacturers of irregular-shaped products that require protection from dust, air, moisture or handling.

It is a new method of transparent packaging called Stretch-Wrapping that is up to 10 times quicker than present wet-wrap manual processes and effects savings as high as 60% in material costs!

Stretch-wrapping is done with Pliofilm* — Goodyear's exclusive new synthetic, moistureproof, crystal-clear sheet that has the unique property of being extremely stretchable when heated—*and increasing in strength and tear-resistance at the same time.*

Due to this stretching ability, an oval cake of soap that requires a 13" x 13" sheet for wet-wrapping can be handled with a 6" x 6" sheet of Pliofilm — and you get a tighter, smoother, seamless, airtight wrap.

Stretch-wrapping is accomplished in one simple operation with the new Pfeiffer-Pliofilm Stretch-Wrapping Machine in which heated sheets of Pliofilm are stretched (molded) around objects of any shape and sealed at the same time. Let us show you how stretch-wrapping will improve your product's appearance at lower packaging cost. Write Pliofilm Sales Department, Goodyear, Akron, Ohio.

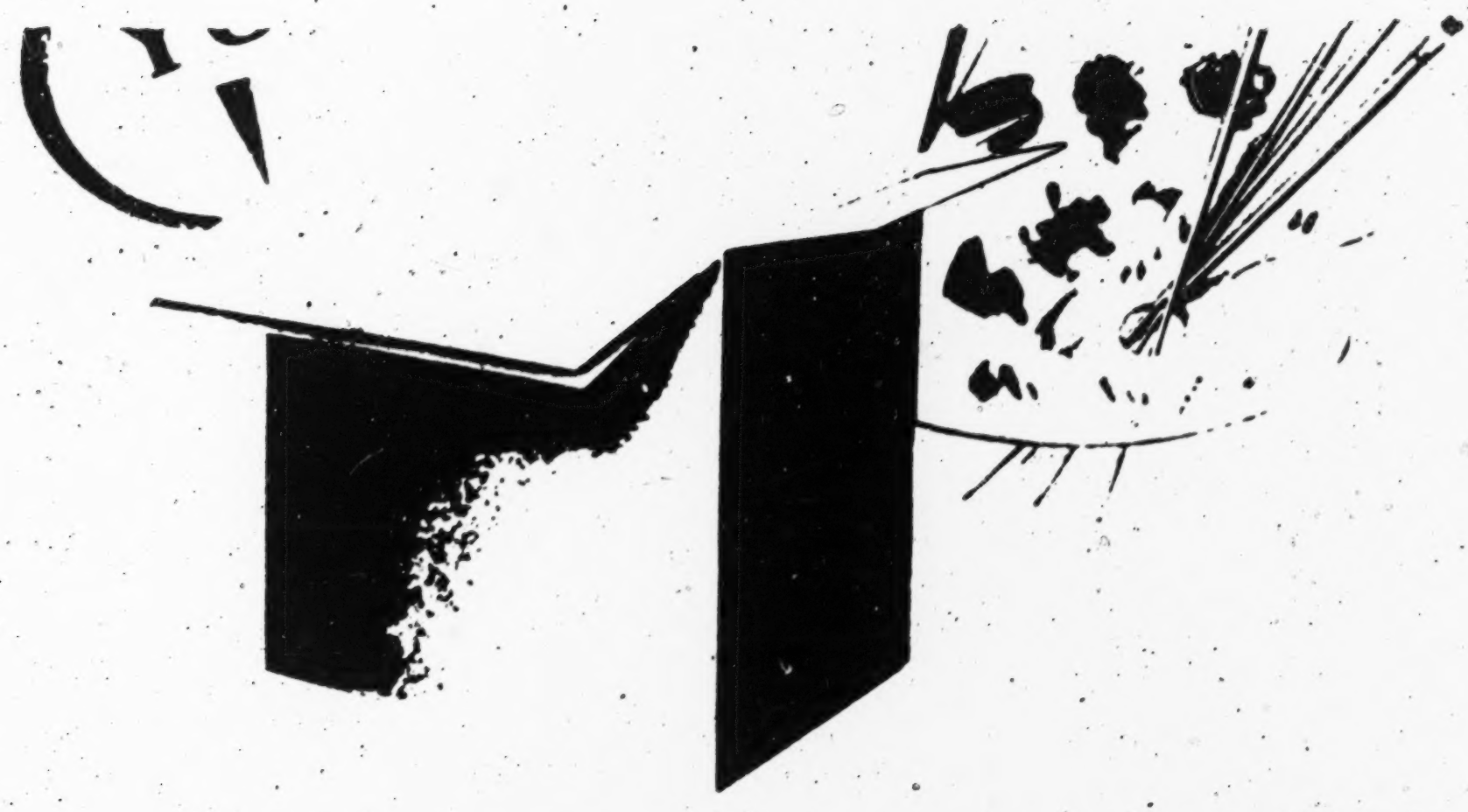
GOODYEAR

*Trade mark of The Goodyear Tire & Rubber Company

Pliofilm PROTECTED YOUR GUARANTEE OF FRESHNESS

Modern Packaging

DECEMBER 1939



It's the outside of your package that should help to attract attention and create initial sales — but it's what the customer finds *inside* the package that determines whether he will buy it again. Volume sales are repeat sales, and they can't be built with a package that permits leakage, breakage, rancidity, mold, sogginess or any other defect that might mar the original quality of the product within. So design the inside of your package first, for its inner protection can have just as much effect on sales volume as can its outer appearance.

Although many Riegel Papers are used for dressing up a package, the majority of our 130 standard lines have been developed for product protection. Among their almost endless variety you should find one that will exactly fit your individual requirements. Write us today.

Riegel Papers

RIEGEL PAPER CORPORATION • 342 MADISON AVE • NEW YORK

Bakers Weekly

Diafane

PROVEN PRACTICAL IN MANY FIELDS

Riegel's Diafane has quietly but effectively proven its value in many fields. Its low cost and attractive transparency have helped to accomplish this, of course, but its greatest value to most manufacturers has been the ease with which we are able to vary its technical qualities to meet each product's individual requirements.

Diafane can be laminated to other papers, or other papers may be coated with a Diafane solution. It can be made to seal in any manner, to work on special or standard packaging machines, to retard mold, to maintain either crispness or moisture, to prevent dessication. It can be tinted or colored even in small quantities, and it can be printed at very moderate cost.

Diafane has certainly proven its value, and its versatility is constantly increasing its field of use. Perhaps it can also serve you? Write us today, and investigate Diafane.

RIEGEL PAPER CORPORATION
342 Madison Avenue
New York, N. Y.

Riegel Papers

Bakers Weekly

DIAFANE

Made in various special grades for lining cartons of poultry, vegetables and other dry-packed products. It is highly moisture-proof, grease-proof, transparent and available for heat seal if desired. Tested and approved by many leading authorities on frozen food packaging. Costs much less than most transparencies.

WAXED WET-RAP

Particularly adapted to frozen fish. It is a pure sulphite paper combining the moisture-proof qualities of a waxed sheet with the wet strength of a parchment. Moderately priced as well as technically correct. *Plain* Wet-Rap is often used for its wet-strength where no moisture- or grease-proof qualities are needed.

LOCKER PAPER

A comparatively new product specially developed for use in locker plants. It combines an excellent degree of moisture resistance and blood-proofness, at a price that is practical for locker use. Available in sheets or rolls of any size.

LACQUERED PARCHMENT

The only frozen food wrap that combines high moisture resistance, high wet-strength, a positive, permanent heat seal, and low temperature toughness and flexibility. Somewhat expensive for locker use, but its unusual properties have enabled it to solve some of the most difficult problems in frozen food packaging.

RIEGEL PAPERS

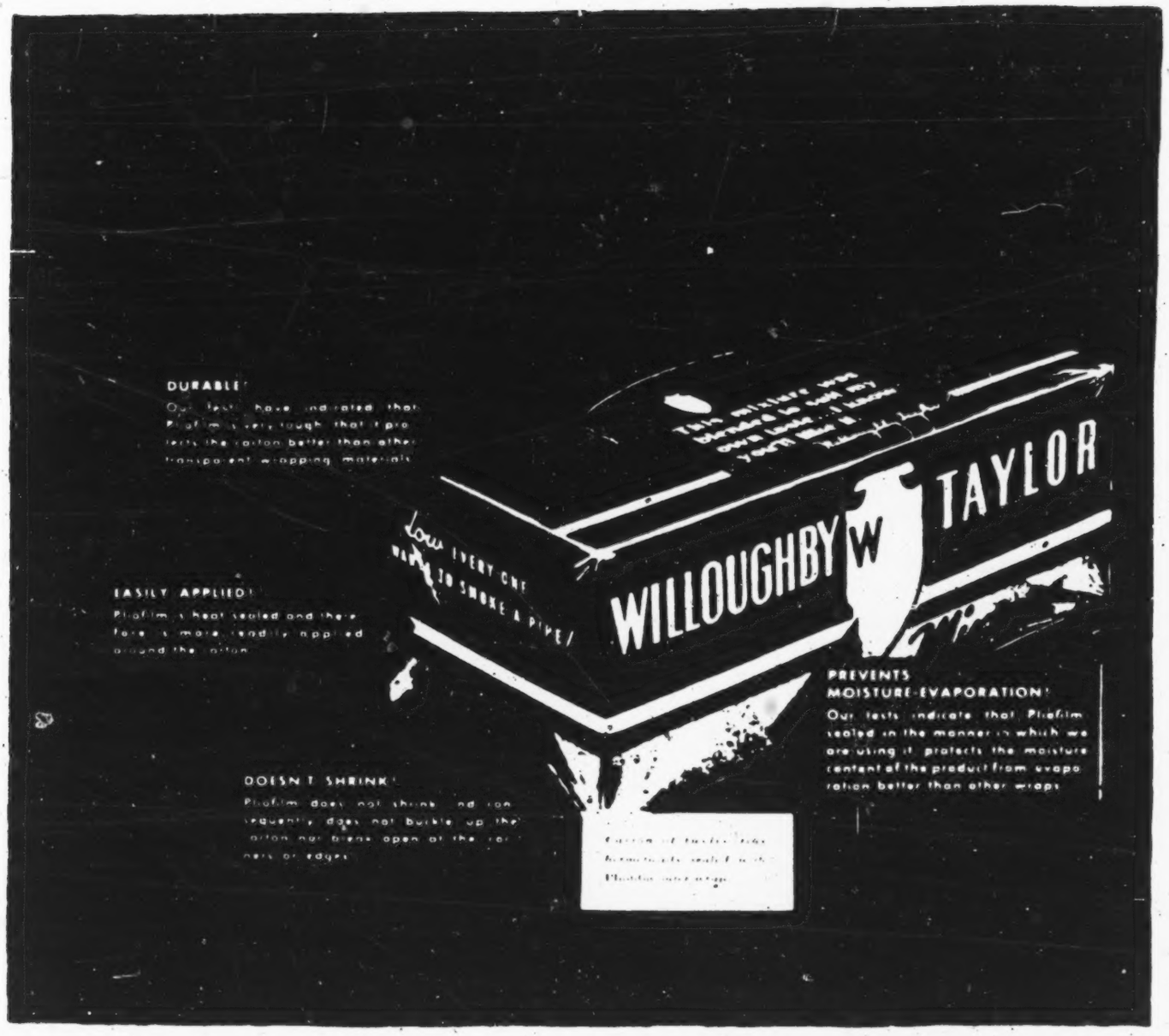
SPECIALLY MADE FOR THE *Quick-Freezing Industry*

Among over 230 different Riegel Papers are these four lines which we have developed specially for the frozen food industry. We believe that technically correct and reasonably priced packaging papers are of particularly vital importance in this field, and have been constantly working toward that end. The papers we recommend above have had from six months to six years of continuous use in quick freezing, and we believe they should be of definite interest to everyone in this field. Write for samples and prices, but please state the probable intended use so that we may send the particular paper best suited.

RIEGEL PAPER CORPORATION

342 MADISON AVE., NEW YORK, N. Y.

Baker's Weekly



ABOVE you read what a large tobacco company says after using PLIOFILM as a carton wrap for a pipe mixture.

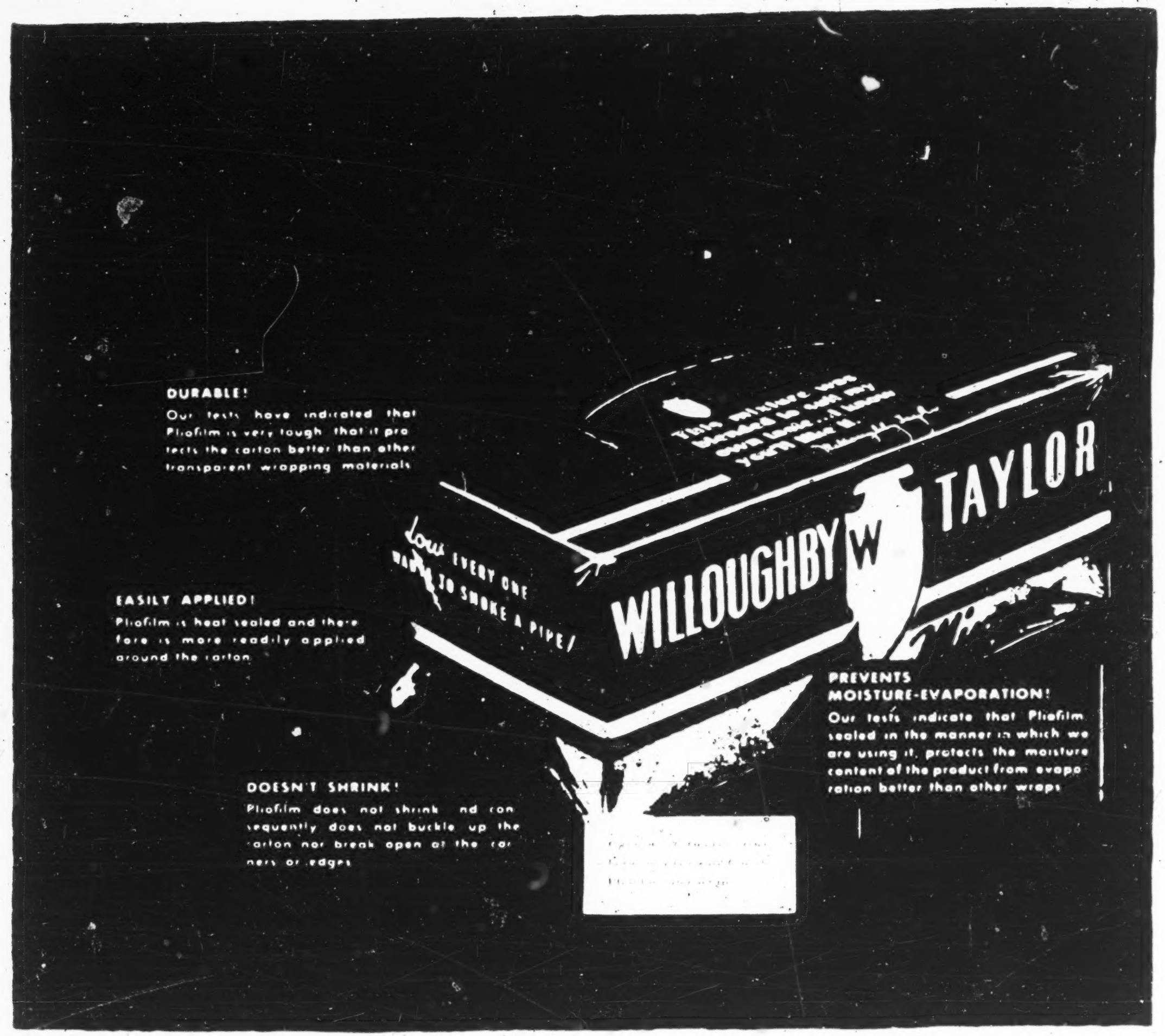
If you have similar problems in your packaging, you will find equally strong reasons for using PLIOFILM. It is the only transparent wrapping material that really assures protection against moisture-evaporation or absorption. Its ability to seal moisture in or out, according to your need, insures your product reaching the consumer in perfect condition—keeps it fresh, attractive, "sellable." Let us show you what PLIOFILM can do for you. Write: Pliofilm Sales Department, Goodyear, Akron, Ohio.

THINGS ARE BETTER SEALED IN

Pliofilm

Made only by GOODYEAR

1941
FEBRUARY • 1941 3
Modern Packaging



ABOVE you read what a large ... insures your product reach- ... show you what PLIOFILM can

HOUSEWIVES
demand it
if DIAFANE
brands it!
Transparency is a great aid to specialty bread sales . . . but there is nothing like *Printed* transparency to make the housewife remember and ask for *your* bread by name. A *Printed* transparent wrap dresses up a loaf on the counter, quickly identifies it with your name and trademark, and then keeps your name in front of the buyer until the last bit is consumed.
Diafane is transparent, moisture-proof, positive-sealing, and economical . . . but of particular sales value is the fact that it may be printed attractively with an *all-over* design at really low cost. A Printed Diafane wrap promotes both impulse sales and repeat sales . . . economically. Write for trial samples and prices.
RIEGEL PAPER CORPORATION
342 MADISON AVENUE - NEW YORK, N. Y.
Also Distributed by Detroit Wax Paper Co., River Rouge, Mich., and Waxide Paper Company, Kansas City and St. Louis.
TIP-TOP
100

Defendant's Exhibit No. 250

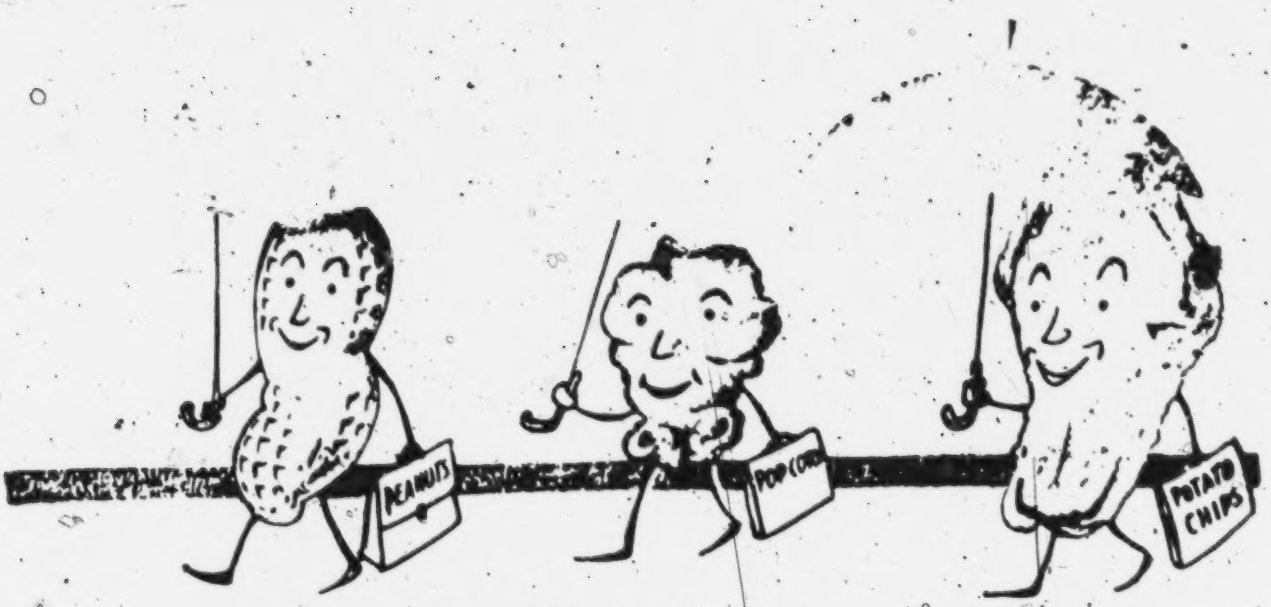
with LUMARITH* Transparent Film

always crystal clear . . . even under refrigeration!

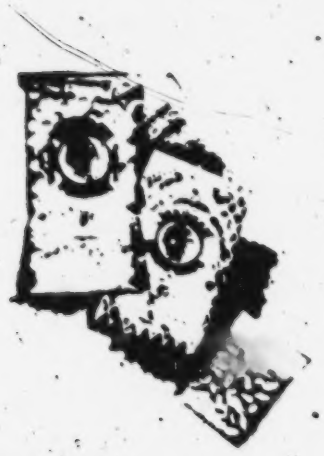
Pro-Pack-Age

Nov 1941

Defendant's Exhibit No. 251



Go where Papers Grow!



● Riegel "tailor-made" packages have helped make these Manhan products fast and profitable sellers.

You might think that peanuts, popcorn and potato chips could all be put up in the same kind of package—specially when made by the same manufacturer—but it just doesn't work out that way. Protective requirements, packaging machinery, point-of-sale displays and cost allowances differ for each item, and must be varied greatly in order to secure volume sales, profitable sales and a maximum period of sealed-in freshness.

It's the same way with many other products. One company may even need a dozen different papers for a dozen different products—and Riegel can often supply them all. With over 230 standard lines to select from—and no favorites—you get the full benefit of Riegel's experience in solving countless packaging problems for others. Or if standard papers won't quite do the trick, our laboratories have shown a remarkable ability to create something new to order. Why not go where papers grow? Write us and investigate.

RIEGEL PAPER CORPORATION

342 MADISON AVENUE • NEW YORK, N. Y.

1941

It is

MOISTUREPROOF

plus

GREASEPROOF

and its

HEAT SEALING

qualities

TRANSPARENT

vapor loss or gain. After four years of intensive development and collaboration with The Goodyear Tire & Rubber Company, this much-needed and unique heat-sealing protective transparent material becomes a reality.

FLAVOR SEALED — FACTORY FRESH

A Pliolux package is equal in protection to metal for many types of "moisture-hungry" products. It keeps products factory-fresh with all the natural flavor sealed in because it offers maximum resistance to moisture-absorption or moisture-evaporation. Guards against undesirable dryness or sogginess.

HEAT SEALED WITH AIRTIGHT WELD

The heat-sealing quality of Pliolux together with its own non-porosity keeps food products from absorbing or giving off moisture-freshness. Don't think of Pliolux as just another piece of paper—it is much more than that—its genuine protective and superior qualities safeguard both your product and your reputation.

99% LESS MOISTURE TRANSFER

Extensive scientific tests prove that there is about 99% less moisture evaporation or absorption with heat-sealing Pliolux as compared with commonly used papers. This reduces shrinkage because packages are hermetically sealed against loss of inherent moisture. All the natural freshness of products is retained in air-tight packages.

PRACTICAL PRINTING QUALITIES

Pliolux papers are easily converted into many types of bag containers printed in crisp, clean colors. A practical printing surface plus proper affinity for ink provide the opportunity for containers tops in "eye-appeal." This high-gloss, moisture-vapor-proof material affords opportunity for the strongest type of selling display.

RHINELANDER PROTECTIVE PACKAGING PAPERS

Genuine Greaseproof
Laminated Frozen Food Wrappings
Confectionery Papers
Cereal Wrapping Papers

Laminated Greaseproof Papers
Lard and Shortening Liners
Bakery Product Wraps
Coffee Bag Papers

Cracker Box Liners
Greaseproof Innerwraps
Glassine Papers Plain, Colored and Embossed

Wax Laminated Glassine
Opaque Label & Bag Glassine
Packing Industry Wrappings and Specialties to order

RHINELANDER PAPER COMPANY • RHINELANDER, WISCONSIN

Modern Packaging

NOVEMBER • 1941

M 522.3

Defendant's Exhibit No. 252

A CURE FOR PROTECTIVE PACKAGING "Headaches"

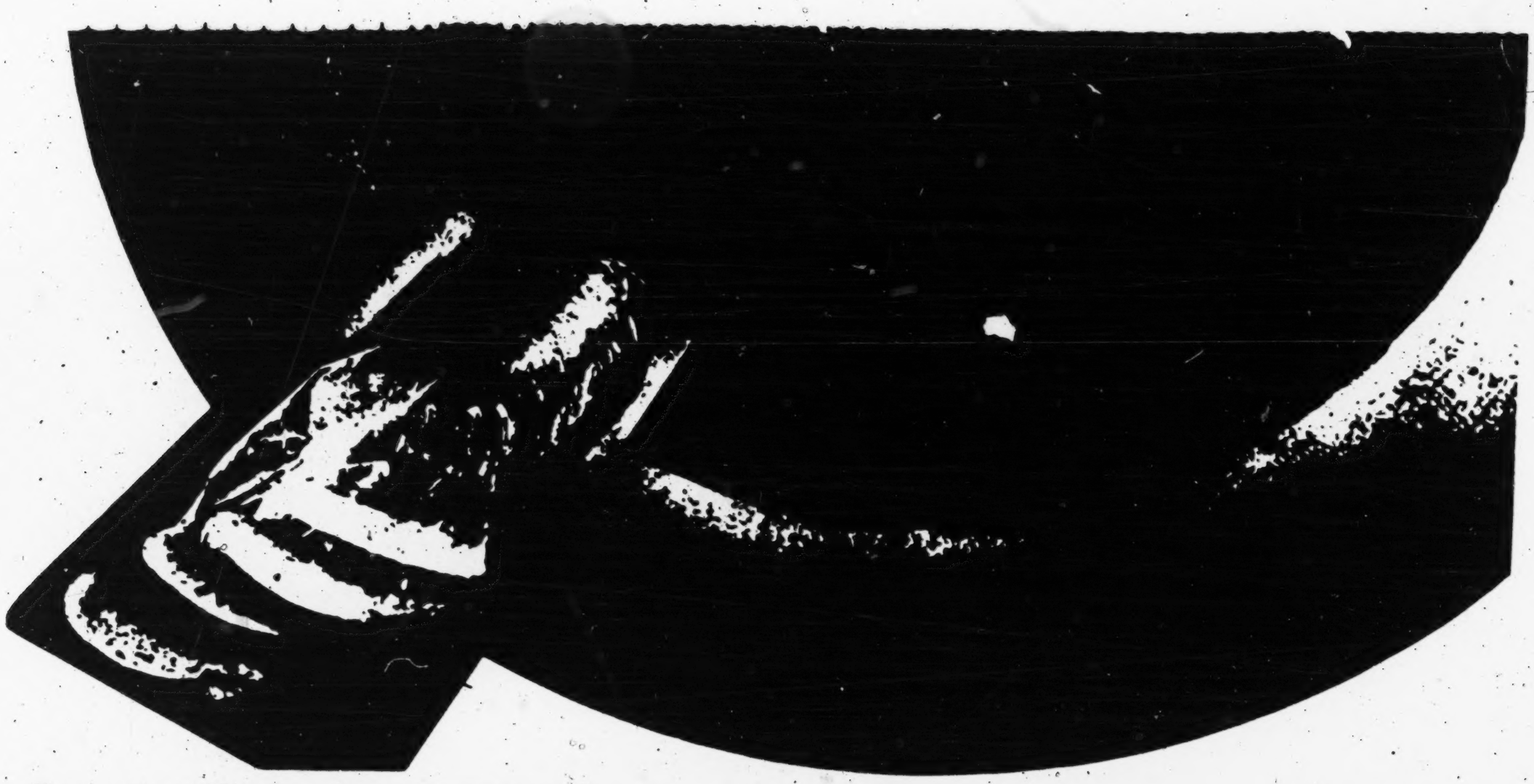
PLIOLUX
HEAT SEALING
MOISTUREPROOF
PRODUCT OF
RHINELANDER
PAPER CO.
RHINELANDER WISCONSIN

It is

With PLIOLUX, *your preferred bag maker can provide containers that guard against loss of flavor, freshness and appetizing goodness due to moisture-vapor loss or gain. After four years of intensive development and collaboration with The Goodyear Tire & Rubber Company, this much-needed and unique heat-sealing protective transparent material becomes a reality.*

Defendant's Exhibit No. 253.

DELIV SAR CTION



Thousands of .50 cal. machine guns are now moving to our fighting fronts protected as never before from moisture, dirt and dust. They are encased in *Saran Film*—the new, completely different transparent packaging material developed by Dow. *Saran Film* is a veritable barrier to moisture—*3 times more moisture-proof than any other comparable material.*

No longer need machine guns and metal parts be covered with heavy, hard-to-remove grease. Now they are properly lubricated, sealed in *Saran Film* envelopes, packed and shipped—actually barricaded against their ever-present enemy—moisture. On arrival, they are quickly unpacked—and ready for action!

Saran Film is a tough, durable material, highly resistant to chemicals and flexible at low temperatures. The full story of this Dow development and its peacetime uses for nearly every type of packaging is told in a new, colorful folder, "*Saran Film*—Keeps Moisture In Its Place." Write for it today.

THE DOW CHEMICAL COMPANY
MIDLAND, MICHIGAN

New York · St. Louis · Chicago · Houston
Los Angeles · San Francisco · Seattle

Saran film

SEE what you buy...and get your money's worth

HOW DU PONT CELLOPHANE HELPS YOU PREVENT WASTE

Because it *shows* what it *protects*, crystal-clear Du Pont Cellophane lets your eyes choose exactly what you want — helps you avoid making mistakes in buying.

Because it *protects* what it *shows*, Du Pont Cellophane helps safeguard goodness and quality. It keeps foods fresh and flavorful... sanitary and free from contamination.

This double advantage makes it important to select foods packaged in Cellophane whenever possible. Today, it is doing many war jobs and the supply for essential civilian uses is accordingly limited.

Tomorrow, in peacetime, you will find Du Pont Cellophane once again used on a wide variety of products . . . *showing* what it *protects!*

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

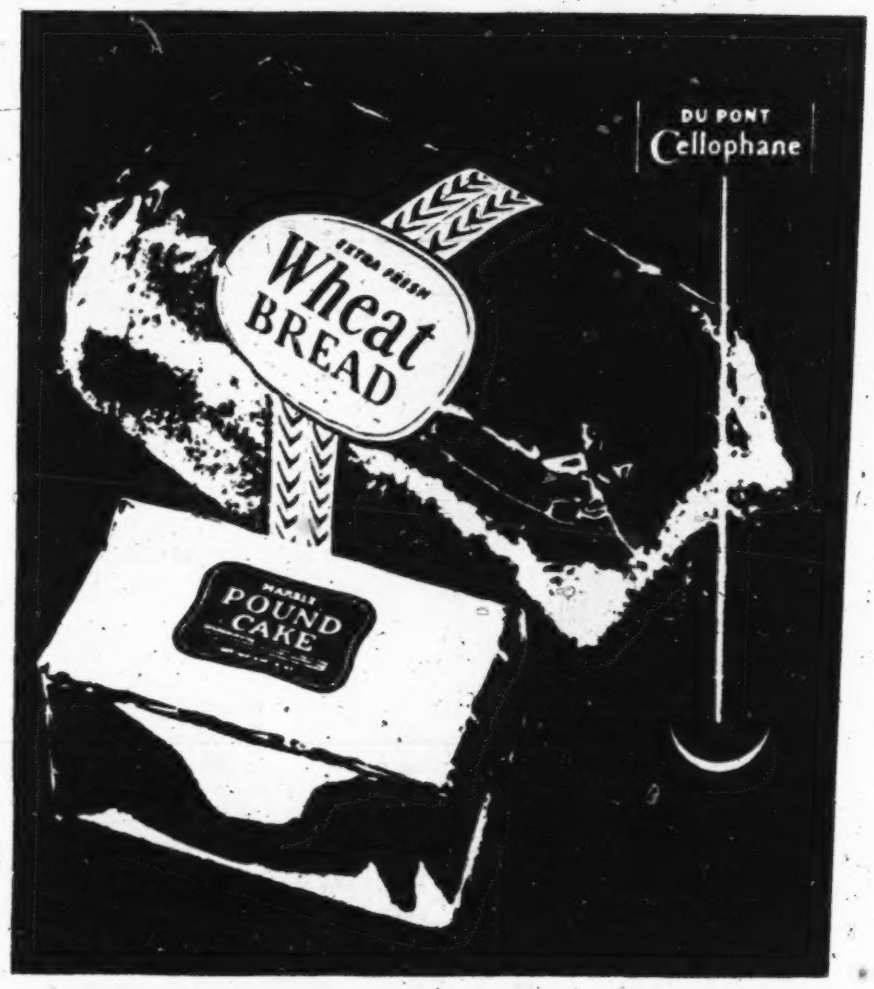
A product of Du Pont research

DU PONT

REG. U.S. PAT. OFF.

MOISTUREPROOF

Cellophane



shows* what it *protects

THE SATURDAY EVENING POST

January 1945

488

Defendant's Exhibit No. 253

GLASSINE and GREASEPROOF

HOW IT IS MADE WHY IT IS SO WIDELY USED PROTECTIVE PACKAGING.

"Glassine and Greaseproof" is the common trade designation for a vast group of protective packaging papers, unlike all other forms of paper due to certain basic manufacturing differences The technical qualities of Glassine and Greaseproof can be varied in many ways on the paper machine or by later finishing and converting operations This enables us to "tailor-make" our papers to your individual requirements—efficiently and economically—an accomplishment that has made Riegel's Glassine and Greaseproof among the most widely used of all packaging materials

✓ Defendant's Exhibit No. 256

Better FOR QUICK-FROZEN SHRIMP

Better FOR EVERYTHING

because it's Liquid-Tight!

Only one packaging material gives you the all-out quality protection you need for frozen foods. It's PLIOFILM.

Because it's truly liquid-tight, this wondrous transparent wrap is a perfect safeguard against temperature fluctuations for the life of the package. That means you can pack shrimp, oysters in brine, fruits and berries in juice without fear of leakage or spoilage.

You can keep vegetables, poultry, meat cuts at their naturally juicy best for long periods, because PLIOFILM prevents dehydration, shrinkage or shriveling. Tests prove that at zero there's only .005 gram moisture loss per 100 square inches.

You can quick-freeze fruit juices with complete security, for even if they should suddenly melt, PLIOFILM retains liquids at all times.

Remember, only PLIOFILM can give you this quality insurance, because only PLIOFILM is truly liquid-tight. It is now available in quantity. For help in planning your package, write: Goodyear, Chemical Products Division, Pliofilm Dept., Akron 16, Ohio.

● *FEATURE PLIOFILM FOR LOCKER USE*

PLIOFILM lined cartons, rolls or bags are a big hit with locker-plant customers who depend on them for efficient, economical food protection.

Pliofilm

A PRODUCT OF GOODYEAR RESEARCH

GOODYEAR
THE GREATEST NAME IN RUBBER

[4635 : 495]

Defendant's Exhibit No. 257

Defendant's Exhibit No. 238

TODAY'S PACKAGING MIRACLE

A label that outlives the container

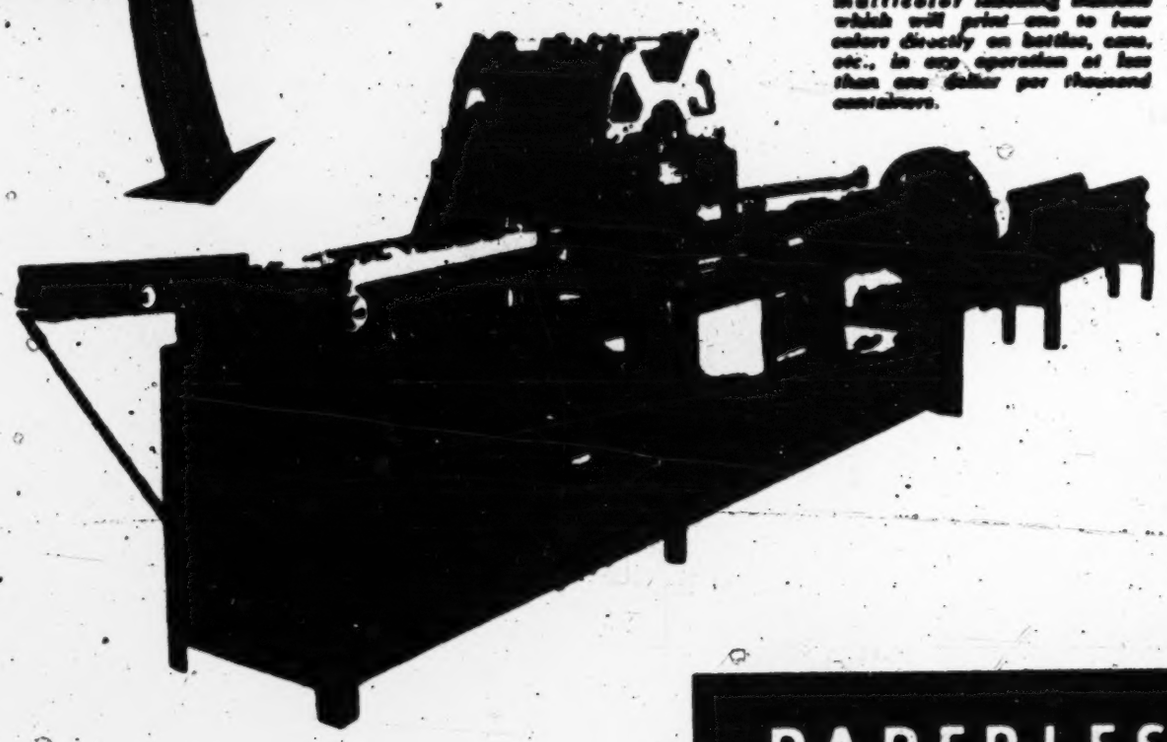


Illustration shows paperless multicolor labelling machine which will print one to four colors directly on bottles, cans, etc., in one operation at less than one dollar per thousand containers.

Labels applied by the paperless labeller will maintain their sparkling colors and attractiveness. This process of labelling is ideal for returnable bottles, yet, its low cost also makes it especially adaptable for the labelling of cans, ampoules and one trip bottles.

The new Kologlaze colors are non-corrosive, and enable each color to harden perfectly so colors may be superimposed if desired.

This machine is the result of a decade of engineering research and development. It has been tested and proved through high speed production in leading food processors, oil refineries, canneries, and a variety of other business.

For further details consult our nearest representative listed below or write direct to Paperless Labellers.

PAPERLESS LABELLERS are manufactured at Bedford, Va. Essex, Ont., Canada; Windsor, Ont., Canada.

New England Representatives:
The E. M. Noel Co.
Boston, Mass.

Pacific Coast Representative:
The F. L. Burt Co.
San Francisco, Calif.

Southern Representative:
Lee W. Harvey

South African Representatives:
Scott Lindberg & Co. (Pty) Ltd.

Mexican Representatives:
American Machinery Co., Mexico

Cuban Representative:
F. Carbon, Havana

British Representative:
Sir Martin Hall, Bart. O.B.E., London, Eng.

Canadian Representative:
Harry Manheimer
Toronto, Ont., Canada

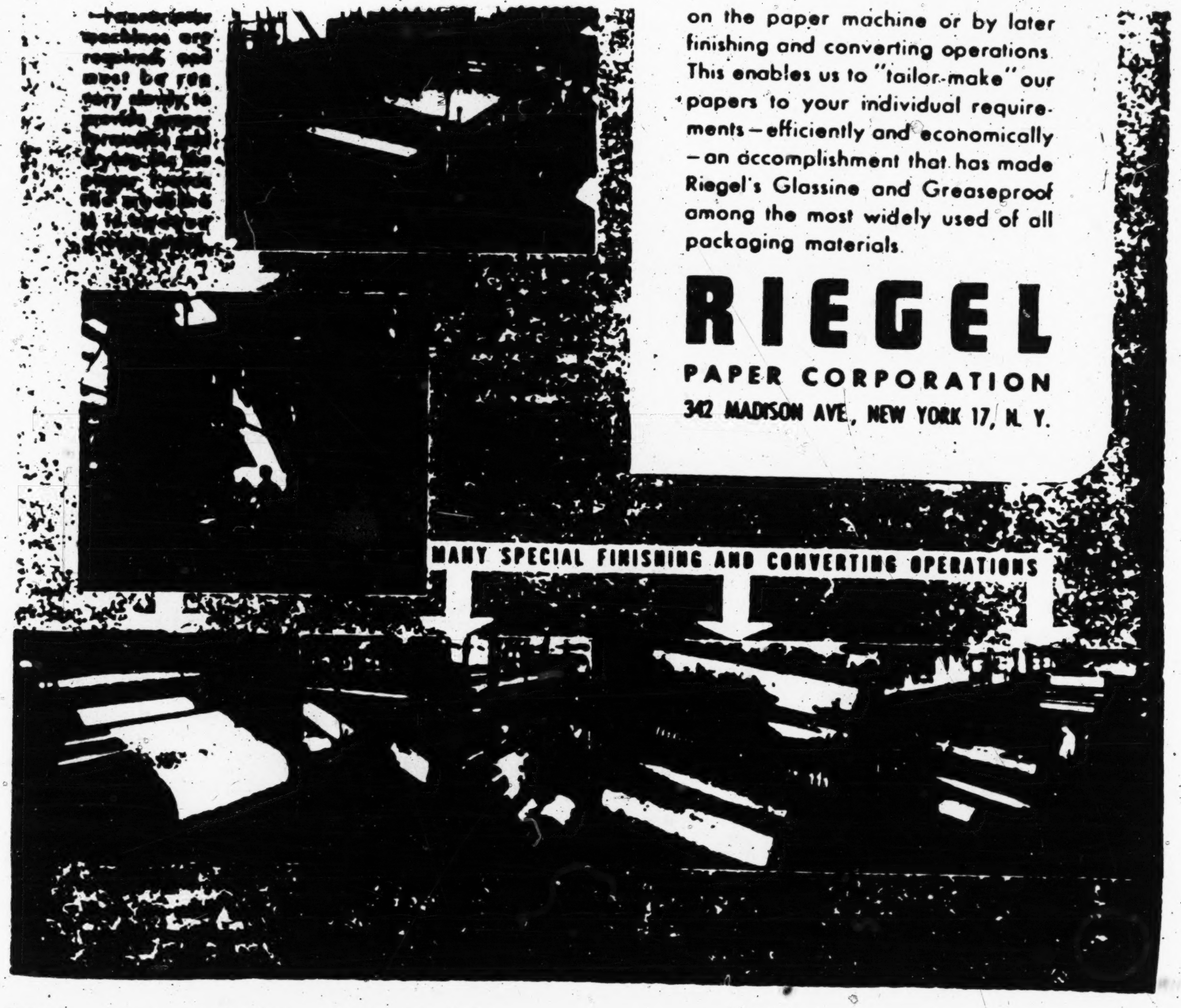
S. and C. American Representative:
Airbill Company
New York

PAPERLESS LABELLERS, Inc.

306 MARQUETTE BUILDING · TELEPHONE RANDOLPH 5603

DETROIT 26 MICH U S A

THE PACK-HORSE OF PACKAGING



on the paper machine or by later finishing and converting operations. This enables us to "tailor-make" our papers to your individual requirements—efficiently and economically—an accomplishment that has made Riegel's Glassine and Greaseproof among the most widely used of all packaging materials.

RIEGEL

PAPER CORPORATION

342 MADISON AVE., NEW YORK 17, N. Y.

MANY SPECIAL FINISHING AND CONVERTING OPERATIONS

Packed BRIGHT! TIGHT! and FAST!

DEAD-FOLDING! That's a *big* feature of Alcoa Aluminum Foil. Consider the savings in time and packaging costs this unique, protective quality can make for you. A sparkling wrap of Alcoa Foil will fold to fit any shape, odd or regular, and *stay folded!* adaptable to high-speed packaging and heat-sealing methods.

PROTECTION! Alcoa Foil has an MVT (moisture-vapor-transmission) rate of practically zero. What's more, it is gasproof, greaseproof, lightproof and non-toxic—not affected by age or temperature extremes.

VERSATILE! If you are looking for modern packages that *protect* . . . packages that *sell* . . . be sure to investigate Alcoa Foil. Leading package manufacturers, experienced in designing aluminum foil packages, will be glad to work with you. For their names, write ALUMINUM COMPANY OF AMERICA, 2129 Gulf Building, Pittsburgh 19, Penna.

MORE PEOPLE WANT MORE ALUMINUM FOR MORE USES THAN EVER

ALCOA

ALCOA ALUMINUM FOIL

Pliofilm is one of the most versatile materials with which Shellmar works. Shellmar engineers have developed many unique applications of this material for use in protecting and marketing foods. Its moisture-vapor proof qualities work equally well in keeping moisture out of pop-corn . . . keeping moisture in spinach, beet greens and ready-to-eat vegetable salad. It protects [illegible] poultry against freezer-burn, dehydration and scarring. As a wrap for cheese, it not only makes an attractive, marketable package but aids in the ageing process. It makes a liquid tight pouch for packaging olives in juice. If you have an unusual food packaging problem, a Shellmar Pliofilm package may be the answer. Why not investigate—now?

*Pliofilm is a trade-marked product of the Goodyear Tire and Rubber Co.

SHELLMAR

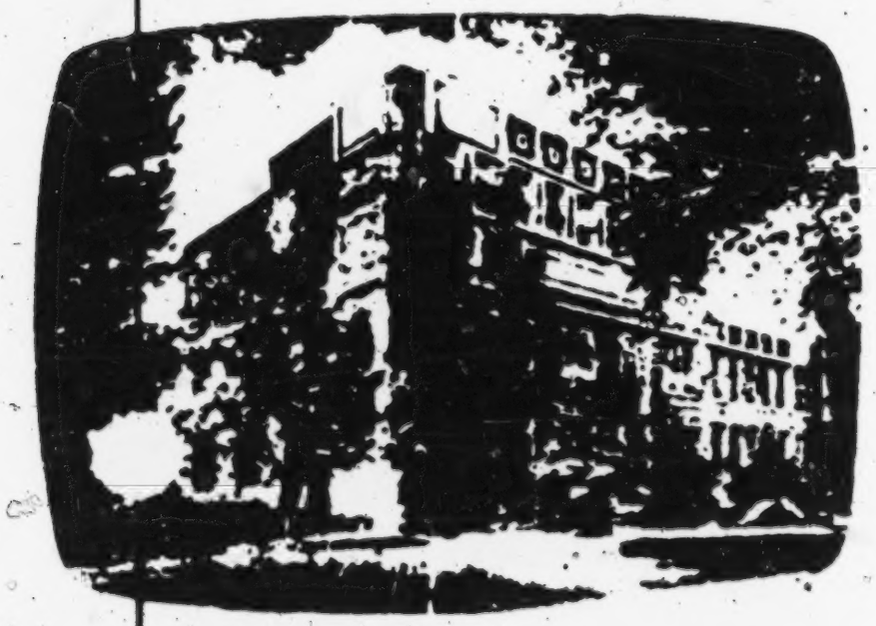
PRODUCTS CORPORATION

MOUNT VERNON, OHIO • SOUTH GATE, CALIF
MEXICO CITY, MEXICO

PACKAGE MANUFACTURER • PRINTER • LAMINATOR • CONVERTER . . . CELLOPHANE • PLIOFILM • ACETATE • SARAN • VINYLS • FOILS • PAPERS • COATINGS

Defendant's Exhibit No. 260

HARRY W. ZINSMASTER
President of the Zinsmaster Baking Co., chairman of the Board of the American Baker's Association, and a prominent figure in local and national business affairs, Mr. Zinsmaster is celebrating 34 years as one of the nation's foremost bakers.



From this beautiful model plant the famous

ZINSMASTER BAKING CO. USES

MILPRINT REVELATION

for over 14 years!

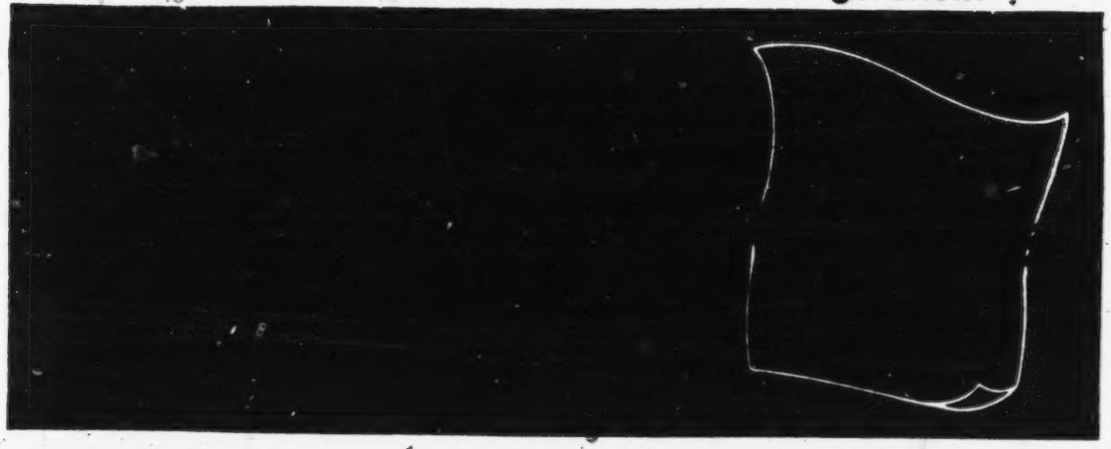
Nationally famous for quality of product, for progressive merchandising policies and modern facilities... the Zinsmaster Baking Company has been a steady Milprint "Revelation" user for over 14 years.

What better testimonial that "Revelation" is everything an aggressive baker needs to keep his bread out front! Follow the leaders with a "leader"— MILPRINT "REVELATION".

Defendant's Exhibit No. 261

with LUMARITH® Transparent Film

always crystal-clear . . . even under refrigeration!



Pro-Pack-Age

Feb 1945

THE PACK-HORSE OF PACKAGING

waxed paper protects *freshness*

For maximum protection at minimum cost use waxed paper to package: Bread, Candy, Cereals, Cheese, Crackers, Desserts, Flowers, Fruit, Gum, Meat, Razor Blades, Soap, Tobacco, etc. Write Waxed Paper Inst., 38 S. Dearborn, Chicago 3.

WAXED PAPER IS WEATHERPROOF • PRINTABLE • SELF-SEALING • LOW COST • FLEXIBLE • SANITARY •

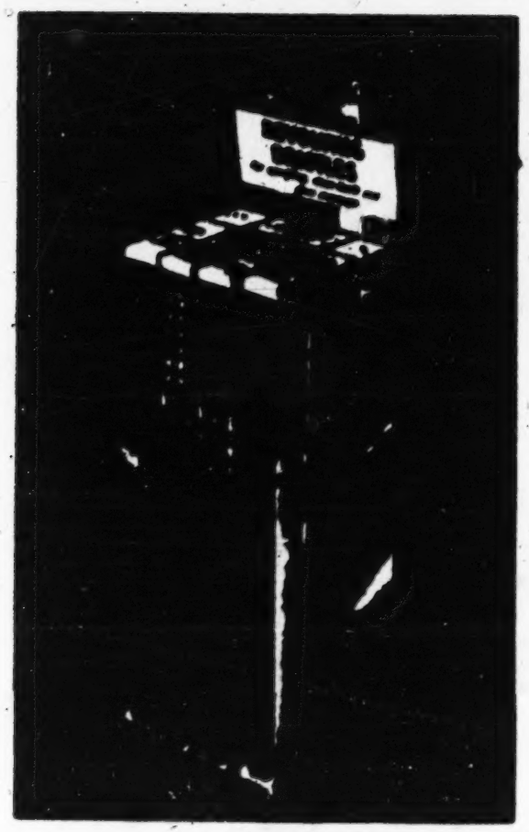
WESTERN CARTON CO.

MANUFACTURERS OF

FOLDING CARTONS • WINDOW & COUNTER DISPLAYS • DIE CUT SET-UP BOX BLANKS PAPER CARRIERS • 2 PC FLATS FOR STITCHED OR METAL EDGE CARTONS • DIE CUT INSERTS FOR TANGIBLE MERCHANDISE • SUIT & MILLINERY CARTONS • BAKERY CARTONS • PARCEL POST SHIPPERS • PARTITIONS OF ALL TYPES

Defendant's Exhibit No. 262

Counter Display



CELLULOSE ACETATE counter display designed to hold a dozen of the new, revolving bristles toothbrushes being marketed by Bennett Brush Corp., Chicago, is a provocative point-of-sale aid. Both the display and the individual boxes were created from Celanese cellulose acetate by Showbest Div., Central States Paper and Bag Co., St. Louis, Mo.

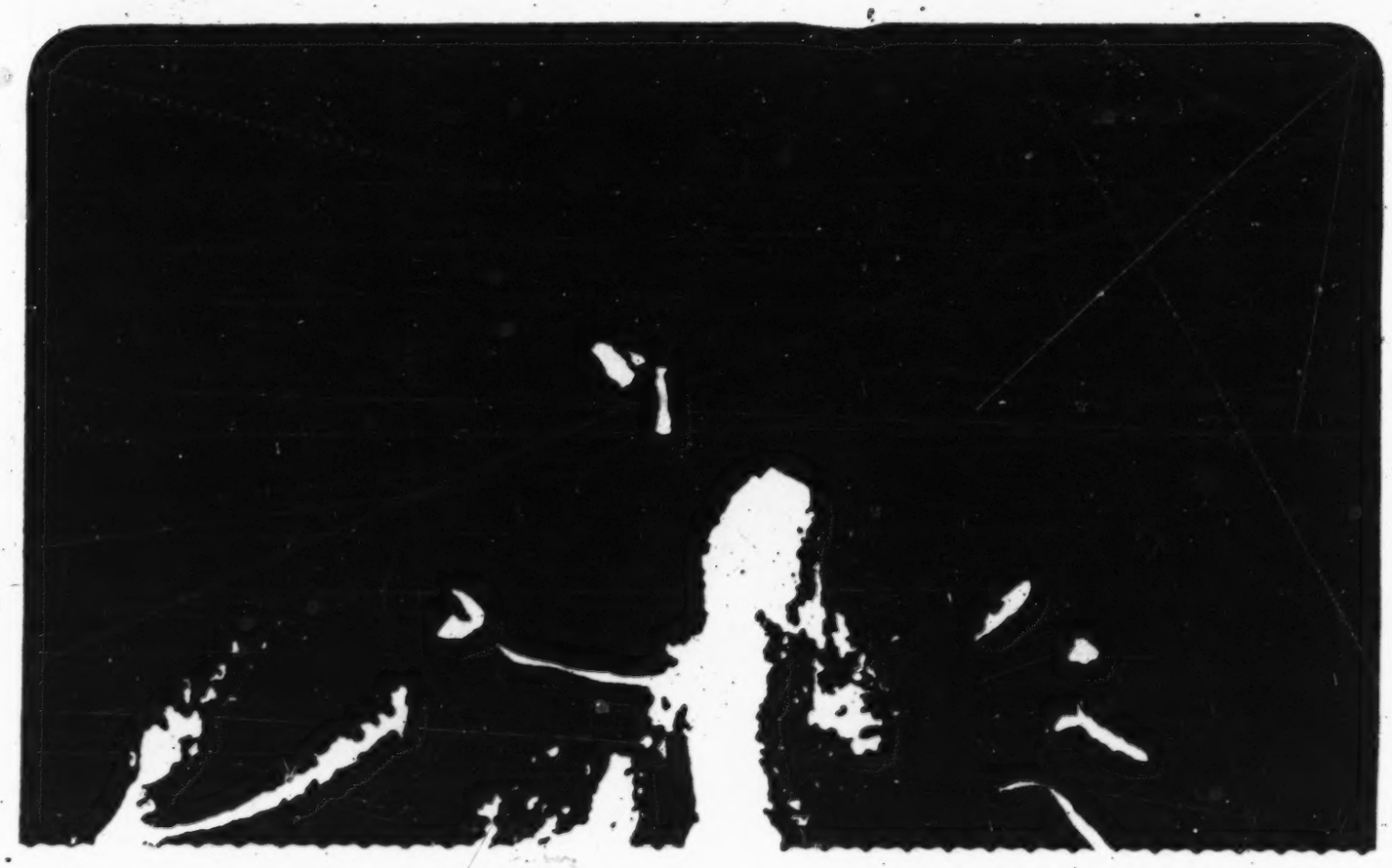
According to responses to AMA's questionnaire survey, there has been a slight lessening of demand in some fields for packaging materials in recent months, and a slight increase in productive capacity, which has sharpened competition among packaging producers.

At the same time, manufacturers who use packaging are being squeezed by the downward pressure on prices and the upward pressure on manufacturing costs to improve their packaging methods as a means of reducing unit manufacturing costs and of lowering distribution costs by attracting wider markets. Greater protection of the product, increased selling power of the package in terms of attractiveness and use to the consumer, and a lowering of packaging costs, with a possible lowering of the prices of packaged goods, may appear in the next few months, according to many companies surveyed by AMA.

Editor's Note: See page 4 of this issue for a condensed news report of the AMA Packaging Exposition and Conference.

resulted in improvement of the use of materials. A wider range of packaging and packaging materials and methods for industry and packages of greater convenience and value to consumers in the near future was reported by the Association. Spurred by increasing competition and a slight increase in supply, AMA found, packaging producers are offering manufacturers a greater selection of materials. As a major part of their selling effort in the returning buyers' market, manufacturers

FROZEN FOODS GET A "HOT" WRAP



✓ Defendant's Exhibit No. 265

bonnets concealing the com pany's perfume in the crowns. Fashioned after the hats the ladies will be wearing this spring, the packages are pasted in color. One is pale blue with cerise ribbon, and the other delicate ...k with aqua ribbon, both adorned ... black nets. Each bonnet-package conceals in the crown 2 miniature bottles of perfume.

• •

Washable Covering. Packaging of superchrome ink in a new carton furnished with a washable acetate protective covering has been announced by the Parker Pen Company, Janesville.

This carton is printed in 3 colors on white coated board and washable covering is then added. Ink color identification is printed on the face, top and at both ends of the package. Only S...

Welch and Pulsipher, has instituted a pre-packaging program, brand-identified, to meet the demand for small, convenient quantities. Brand identification has been achieved through use of a cellophane wrap. The wrap is made in rich green, with brand and company name in bold white lettering. It is heat-sealed over a tray holding 4 to 6 apples. *Credit: Wrap. The Dobeckmun Company, Berkeley, Cal.*

New Continental Plant – Construction of a new Continental Can Co. plant in West Mifflin Boro, about 10 miles southeast of Pittsburgh, Pa., will begin early this coming spring. Hans A. Eggerss, president of Continental, has reported. He stated that a contract for the design and construction of a one-story steel frame building of approximately 700,000 square feet had been let to the Wigton-Abbott Corporation of Plainfield, N. J. The new plant will be used for the manufacture of metal cans and crown caps, to some extent replacing present facilities at other locations, but also providing for the installation of considerable new equipment to meet the increased demand from customers in the area for metal cans for foods, beer, oil and miscellaneous industrial products. The new plant will make a total of 59

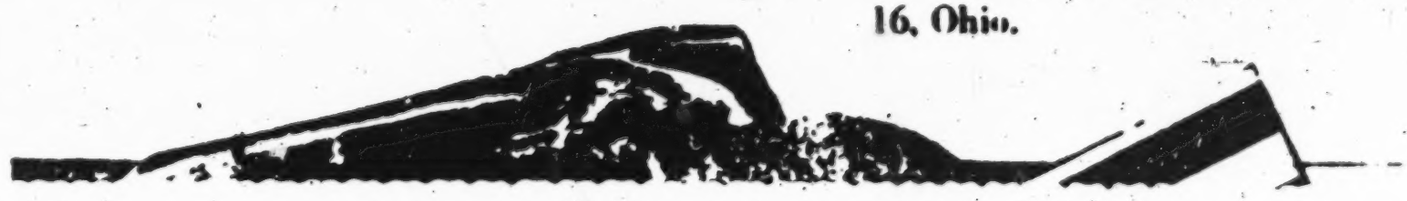
"It" Takes the Cake for Bakery Goods

THAT'S right. Bakery products, too, are now enjoying the perfect quality-protection, the extra sales-appeal that go with **Pliofilm** packaging.

In **Pliofilm**, Stollen, brownies, filled cookies, crackers, keep fresh and crisp till they're eaten. Cream-filled cookies hold the moisture content upon which their goodness depends.

The reason: **Pliofilm** is air-moisture-liquid-proof. It keeps wanted moisture *in*, unwanted moisture *out*. It's this property that makes it the ideal packaging for any food whose quality is affected by moisture absorption or evaporation.

If you've a moisture problem in packaging, get acquainted with this miracle transparent film that insures customer satisfaction. For additional details, write: Goodyear, Pliofilm Dept., Akron 16, Ohio.



Could your product use this

Moisture Control?

HERE you see what Pliofilm's magic "moisture control" can do for a wide variety of products.

Goodyear's famous packaging film is air-moisture-liquid-proof. By controlling the passage of moisture in or out, Pliofilm brings your product to the consumer at its peak of quality, in a glistening garb that heightens sales-appeal.

If you have a moisture problem in packaging, get acquainted with this amazingly successful transparent wrap now. Write: Goodyear, Pliofilm Dept., Akron 16, Ohio.

Everything is better in Pliofilm

3 way protection against air, moisture, liquids

GOODYEAR

THE GREATEST NAME IN RUBBER

122

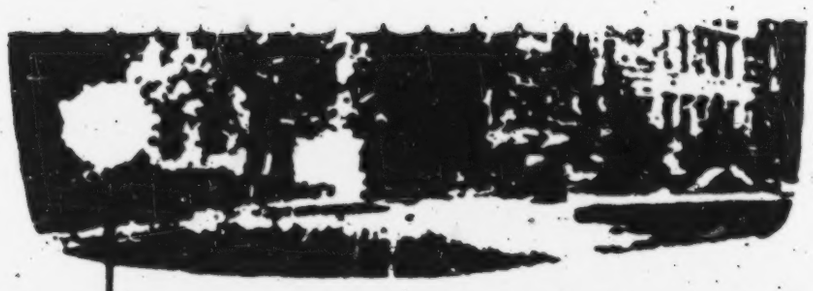
123

4642

497

Defendant's Exhibit No. 263

M 5231



From this beautiful model plant the famous *Master* bread and bakery products go to the people of Minneapolis and St. Paul.

HEADQUARTERS TO THE BAKING INDUSTRY

Defendant's Exhibit No. 264

WHY ROSENBERG

CHOSE Plastylon

PACKAGES BY MILPRINT

Milprint INC
PACKAGING MATERIALS
LITHOGRAPHY & PRINTING

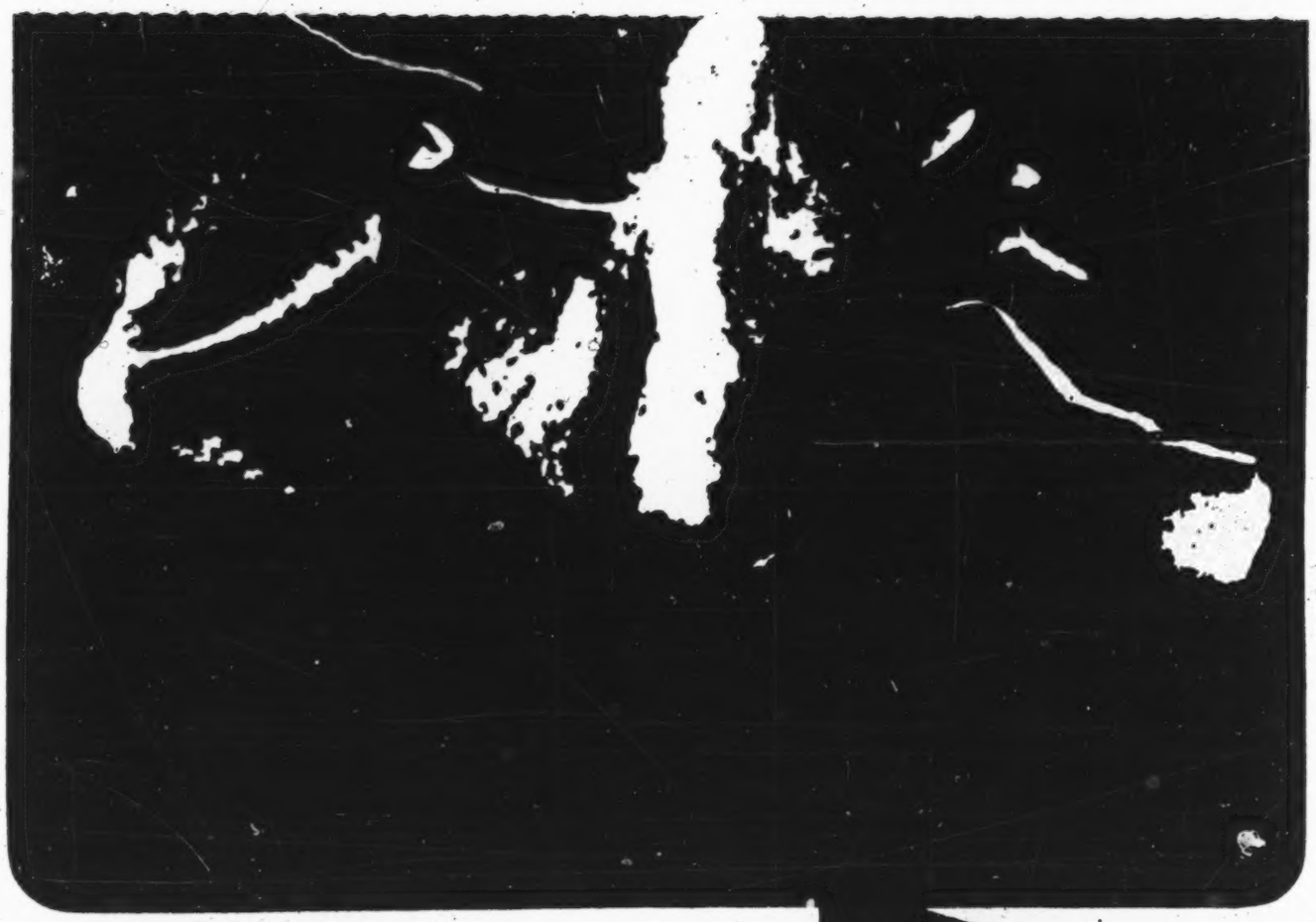
Good Packaging

Dec. 1944

aging and packaging materials and methods for industry and packages of greater convenience and value to consumers in the near future was reported by the Association. Spurred by increasing competition and a slight increase in supply, AMA found, packaging producers are offering manufacturers a greater selection of materials. As a major part of their selling effort in the returning buyers' market, manufacturers are planning greater reliance on the use of packaging as the "silent salesman" to win and hold customers by adding greater convenience, attractiveness, and usability to their their merchandise.

Grandson Of Founder

WILLIAM Y. CHATTERTON, president of L. J. Cady & Co., Chicago, and president of original founder. The company, a manufacturer of board and paper testing instruments, has moved to 184 N. LaSalle street, Chicago.



No other packaging material can accomplish all that Fiber's polyethylene film does.

As the photograph shows, it is transparent and will stretch to give a tight wrap for odd shapes, like poultry. (The stretch is several hundred percent without rupture.) At sub-zero temperatures, it remains tough and pliable. It has excellent "feel." It is non-toxic, odorless, tasteless and chemically inert. It can be heat-sealed. The goodness of meats and vegetables is fully protected, but never hidden.

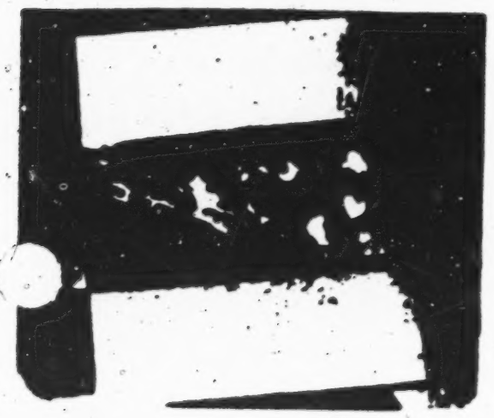
Fiber polyethylene film comes in sheet form and in tubing for gusseted tubing. For the complete story [illegible] and other Fiber products, please write.

P. O. BOX 1818 ★ HARTFORD 1, CONNECTICUT
In Canada — Canadian Industries, Ltd., Montreal

Wax Carton is printed in 3 colors on white coated board and washable covering is then added. Ink color identification is printed on the face, top and at both ends of the package. Only 8 ounce bottles will be packaged in the new carton.

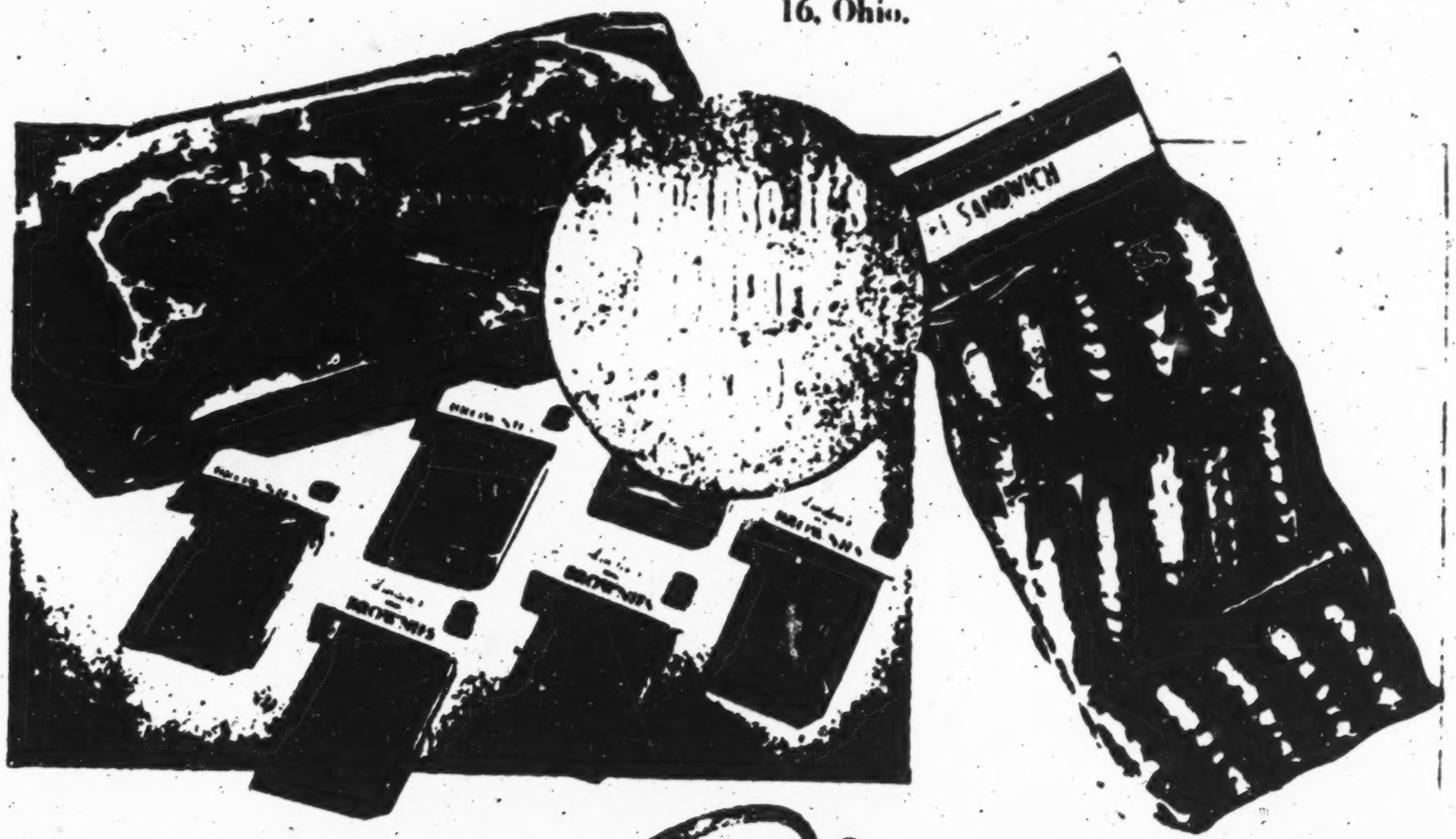
Cellophane Wrapped Apples A new approach to the marketing of special quality apples has been adopted

by a grower in Wenatchee, Wash., with sales results that may mark a trend in the industry. The grower,



PACKAGING PARADE, FEBRUARY, 1949

acquainted with this miracle transparent film that insures customer satisfaction. For additional details, write: Goodyear, Pliofilm Dept., Akron 16, Ohio.



Everything is better in Pliofilm

3-way protection against air, moisture, liquids

GOODYEAR

THE GREATEST NAME IN RUBBER

21

4645
500
Defendant's Exhibit No. 266

Defendant's Exhibit No. 267

said *Credits: Can designed by Donner Fitzgerald-Sample, Inc., and executed by Continental Can Co., both of New York City.*

◆

Frozen Juice Line Pictured are members of the Snow Crop quick frozen fruit juice concentrates, orange, grape and grapefruit juices, and grapefruit and orange juice

blend now available for the first time. The 3 new juices, grape, grapefruit and the grapefruit and orange juice blend, were placed on the market this spring after market tests during the past winter showed favorable demand for these additions to the family group according to R. F. Vincent, sales manager, Snow Crop Marketers, Inc., N.Y.C.

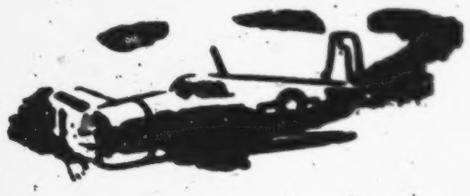
◆

First Time In Groceries A soapless cleaner for rugs, carpets and upholstery called "Velv-O-Knap" now is being packaged in a new glass container for grocery store distribution. Gillingwater Laboratories, Toledo, has had the product on the market for several years, but never in grocery outlets. Product contains no soap or alkali but [illegible]

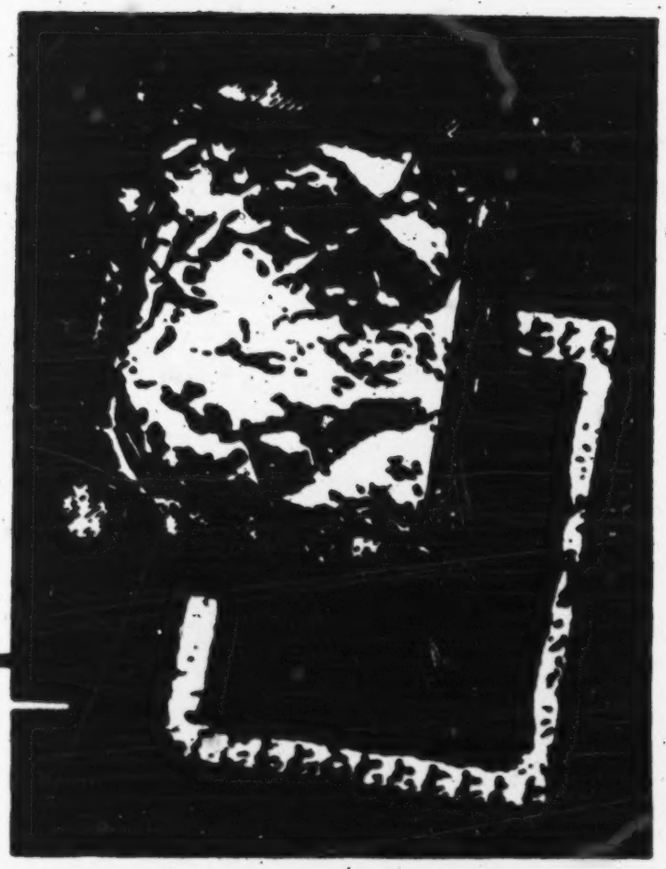
liquid cleanser. Illustrated directions appear in red lettering on back of bottle. *Credit: Quart bottle with applied color lettering fused into a permanent label design and metal closure by Owens-Illinois Glass Co.*

◆

Orange Juice Standards Urged Secretary of Agriculture Charles F. Brannan soon may be asked to set up minimum quality standards for new canned frozen orange juice, officials have reported. They said the industry wants to make sure its new product, which is proving popular, does not suffer the same kind of temporary setback experienced by the frozen food industry a couple of years ago. Industry representatives already have had several conferences with Agriculture Department officials on the subject and they said Mr. Brannan would have "full authority" to take such action because the new method of producing canned frozen orange juice was developed at one of the department's Florida experiment stations and the government holds the patents on the process. Under the process, orange juice is concentrated to about one-sixth of its normal volume. Some of its origi-



FROM AIRPLANE ENGINES



TO HAIR WAVE CHEMICALS...

VINYLITE Plastic Foil Laminates Provide Packaging Perfection!

Defendant's Exhibit No. 268

DAVID H. DALY, traffic manager, Bristol-Myers Co., Hillside, N. J., presented a report on his work with disposable pallets, pointing out that this type of pallet has a very important place in American materials handling and transportation, and citing savings that are possible.

Asked whether he had developed any testing method for determining the efficiency of irregular shapes in packaging, W. Gordon Bennett, manager, packaging, Anaconda Copper mining Co., New York, replied that his company uses performance tests only, shipping between company's own plants before adopting. Asked if hydrated lime had been shipped in multiwall bags loaded on pallets, T. P. Callahan, supervisor of containers, Monsanto Chemical Co., Springfield, Mass., said that several such shipments have been made. "Because rigid empty containers take up storage space, Monsanto's plastics division is changing to multiwall paper bags," he added.

Drug Merchandising

product has been exhausted. It was suggested that all liquids of 16 and 8 ounce size be cartoned. "Print clerk sales arguments on the package in some subtle manner. With thousands of items in stock, it is practically impossible for the retail clerk to remember particular attributes of each one," another druggist said. Mr. Griffith in conclusion said: "The one quality which a good drug package should have is the power to inspire user confidence. Most medicines, aside from their actual curative powers, exert a mental effect on the user so that if he feels that the preparation he has just bought is the thing he needs to fix him up, then he feels better immediately and his cure is already partly effected. Chances are he has already been partly sold by a friend, his physician, the druggist or through advertising. The job of the drug package is to complete that sale."

Department Stores

"The package that creates the impulse to buy is rather a rarity. The bulk of any assortment of packaging, regardless of its type, dissolves into a monotone of color and [illegible]monot-

Defendant's Exhibit No. 269

Packaging Conference

(Continued From Page 87)

100 percent standardization is not possible. Also, non-standard units should be segregated. Recommending wider use of automatic feeds and discharges on packaging machines for greater synchronization, he explained that Schenley attempts to have every machine equipped with attachments which permit every machine to handle every package so that, through synchronization, after a package has entered the first machine, it is moved into every other machine in the line without respacing or contact with another package. He said that Schenley has designed "universal attachments" for every machine in its lines so that each unit now has one infeed and discharge mechanism that can be used for all packages. This was achieved by classifying into size groups the entire range of products to be handled and establishing the maximum and minimum for each dimension. Primary attachments, constructed with a range of adjustments, were then designed and secondary attachments which could be changed rapidly were added for each classification. "As a result," he explained, "many changes now require only a thread adjustment and few require more than a quick addition of standard parts. The cost is equivalent to that for 2 sets of standard attachments. The attachment program has taken approximately 2 years to become effective in all plants but it has achieved marked success."

Marathon Waxed Paper Overwraps Provide...

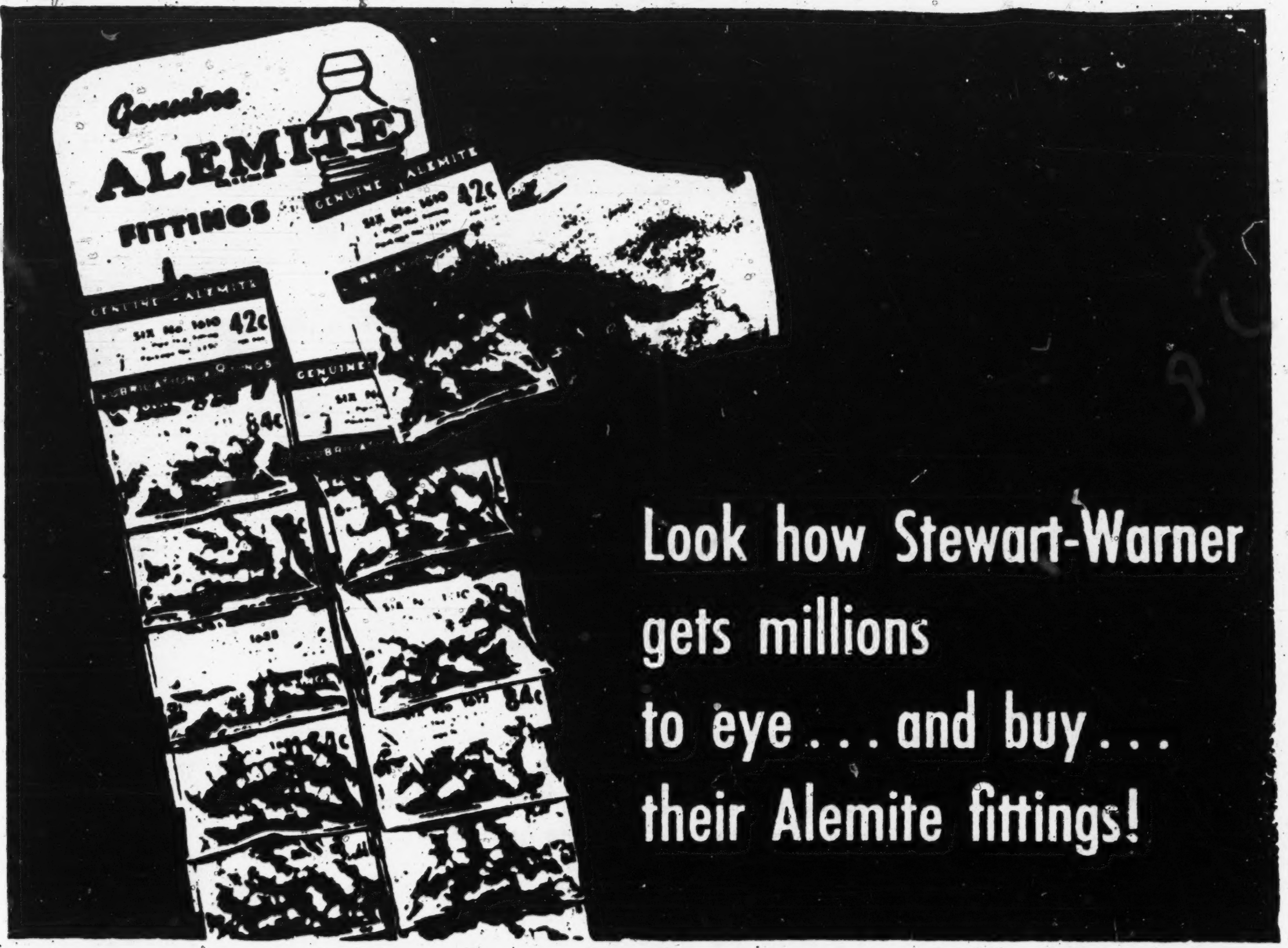
Appetite Appeal + Protection!

* Marathon Waxed Paper Overwraps have been selected to provide protective, sales-building outer wrapping for the famous Schuler's Potato Chips. Waxed paper's pure white opaque surface faithfully reproduces *in natural color* the appetizing good looks of the product inside. Freshness and flavor are *completely sealed in* by these moistureproof, heat-sealing wrappers. Marathon Waxed Paper Overwraps lend themselves perfectly to automatic machine packaging . . . with electric eye cut-offs for precision spotting of the wrapper on the box.

Machinery For Films

"Efficient machine operation depends on close attention to detail," Walter M. Farrelly, packaging supervisor, Cellophane Division, E. I. du Pont de Nemours, Inc., Wilmington, Del., said in his talk on "Getting the Most Out of Machinery for Films". Stating that most films which depend to some degree for their strength and flexibility on moisture absorbed within the sheet reach ideal moisture equilibrium at a temperature of from 60 to 70 degrees and a relative humidity of 40 to 50 percent, he recommended that films be conditioned at least 24 hours before using. He said that automatic wrapping machines, not equipped with side plates or discs that fit snugly against the roll ends to prevent telescoping of the film roll, should be so equipped and that some form of slack take-up device is required on high-speed machines which use intermittent motion for feed. A properly adjusted corrugating device will double or triple the distance a thin film can be pushed without buckling, he added, and an air jet is very useful in the feeding of such films. Knives of the shear type, either rotary or oscillating give best performance for cutting single strips of the thinner films, Mr.

Defendant's Exhibit No. 270



Another tough packaging problem solved

Defendant's Exhibit No. 271

Defendant's Exhibit No. 272

Insure the Success of Your Self-Service Dept.

package with

NON-FOGGING LUMARITH* TRANSPARENT FILM

THE *"Breathing"* WRAP

There's no place for foggy, limp, slimy wraps in your self-service department. Here's where you need Lumarith -the

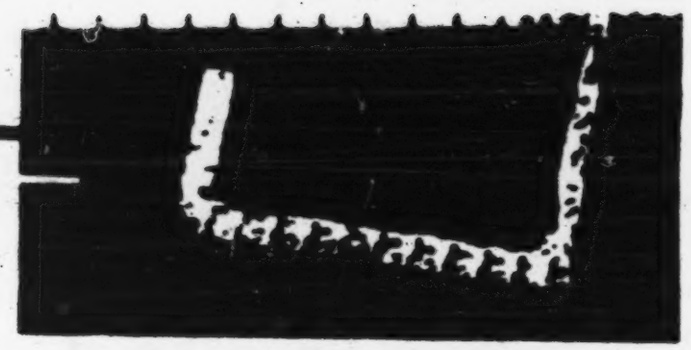
WINDOW BOXES BOOST SELF SERVICE SALES

CRANBERRIES
Unit-size boxes, with Lumarith windows, stack easily...eliminate breakage in handling ...make colorful displays.

WIENERS
Ask about special Lumarith-lined

First Time In Groceries A soapless cleaner for rugs, carpets and upholstery called "Velv-O-Knap" now is being packaged in a new glass container for grocery store distribution. Gillingwater Laboratories, Toledo, has had the product on the market for several years, but never in grocery outlets. Product contains no soap or alkali but has an oil base. It melts grease as it cleans, the manufacturer said, and is applied with a sponge direct from the bottle. Red and white bottle label contrasts effectively with the yellow

TO HAIR WAVE CHEMICALS . . .



VINYLITE Plastic Foil Laminates Provide Packaging Perfection!

MIDGET PACKAGES for chemicals to speed milady's home permanent waves. Giant ones for airplane engines to keep them factory-clean. These are just two of many outstanding packaging jobs done by laminating VINYLITE Brand Plastic Film with aluminum foil . . . because they are sturdy, flexible, easily sealed, non-porous, and highly resistant to oil, grease, moisture, and most strong alkalies and acids.

Yet besides their application as laminates for foil, paper, cloth, VINYLITE Brand Plastics in their different forms have a multitude of other packaging uses where flexibility, transparency, color, formability, and chemical resistance are required—

There's tough, easily fabricated VINYLITE Cast Film that is so successful for packaging oleomargarine, as well as VINYLITE Brand Calendered Films . . . and coatings, moldings, and rigid sheets made of VINYLITE Plastics. Add to these BAKELITE Polyethylene Plastics. They're lighter than water, flexible, and chemical resistant, too, with extremely low water-vapor transmission.

Whether it's color, display, transparency, easy fabrication, or a broad range of other qualities you are looking for in packaging, you are cordially invited to bring your problems to Bakelite Corporation. Engineers first, salesmen afterwards, our representatives may well be able to show you how to speed production, increase merchandising advantages, and lower costs of your packages—with the proper use of the correct plastics. Write Department GH-48 today!

Foil Lamination Data Courtesy The Dobeckmun Company

Vinylite

BRAND PLASTICS

BAKELITE CORPORATION

BAKELITE CORPORATION, *Unit of Union Carbide and Carbon Corporation* 30 East 42nd Street, New York 17, N. Y.

if hydrated lime had been shipped in multiwall bags loaded on pallets, T. P. Callahan, supervisor of containers, Monsanto Chemical Co., Springfield, Mass., said that several such shipments have been made. "Because rigid empty containers take up storage space, Monsanto's plastics division is changing to multiwall paper bags," he added.

Drug Merchandising

Retailers would appreciate a reduction in the number of sizes of each item that they are asked to carry, Joseph Griffith, vice president, Pennsylvania Drug Co., New York, reported, citing returns from 50 personal letters which he had used to query "corner druggists". But, the most representative and important complaint from both chain store men and jobbers was one asking the drug manufacturers to reduce the number of items to the shipping case and also to the shelf package. "Shipping in case quantities costs only about 6 percent, but shipping merchandise in broken lots runs up to nearly 15 percent," Mr. Griffith explained. He also pointed out that many druggists complain about the design of jars having convex tops, that makes it impossible to pyramid them on glass counters, and about odd sizes and shapes that are difficult to wrap. The polyethylene spray bottle was frequently referred to as a fine example of how good packaging can create consumer interest and make the product easier to use, he said. Other druggists asked for more versatile packaging, suggesting that studies be made to discover how the container can better be used in connection with the product or re-used after the

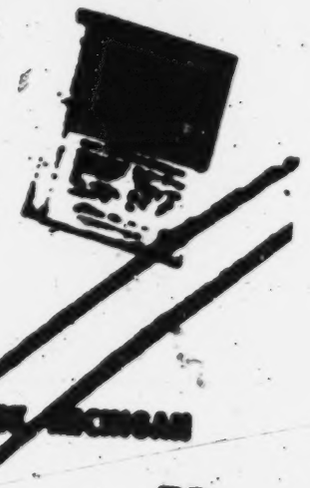
Here is a new packaging idea that will help you sell more soda crackers . . . that may prove as revolutionary to the cracker industry as did the elimination of the old cracker barrel.

Consumer packaging of pound packages of crackers has been modernized. It is now practical and profitable to wrap separate quarter-pound units in flavor-proof, moisture-proof Cellophane, or vegetable parchment . . . an operation made practical by the "Continuous Flow" Battle Creek Model 43 wrapping machine.

Through this machine you realize a two-fold advantage: You have a more salable product, as the individually wrapped meal-size sections keep the crackers fresh until the last cracker is used. You create a year around market for soda crackers, by keeping them crisp, tasty and fresh even in very humid weather.

Although operating at high speeds, the Model 43 will provide many years of trouble-free service. This is largely due to the absence of reciprocating motions which tend to slow production, wear out machines and cause breakdowns. Many of the original "Continuous Flow" machines built by Battle Creek 30 years ago are still in "around the clock" operation. See your local representative or write our engineers. They will gladly help you with your packaging problems.

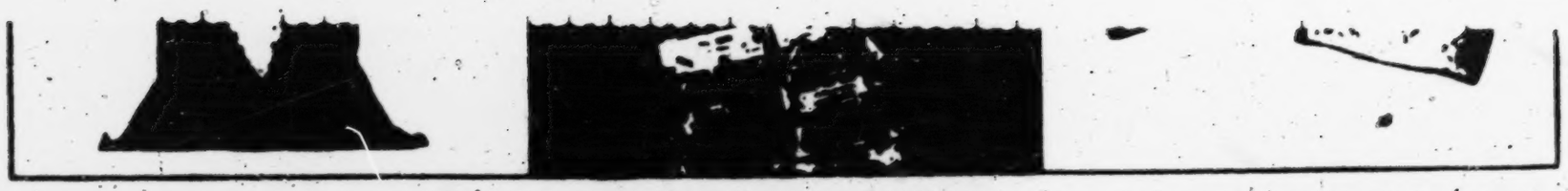
Just off the press, this new bulletin contains the latest information on the latest of Wrapping Machines that is making a new high in sales appeal and a new low in packaging costs.



Continuous Flow WRAPPING

BATTLE CREEK BREAD WRAPPING MACHINE COMPANY BATTLE CREEK, MICHIGAN

53



Keeping dry powdered skim milk DRY, free-flowing and sterile was a tough problem with former packaging methods. Product picks up moisture, cakes into big solid lumps. Arkell Safety Bag Co. of Chicago consulted Visking engineers who developed this moisture-proof bag made of VISQUEEN film. Safer, longer storage of product now possible—at far lower cost.

How Stewart-Warner gets millions to eye and buy their Alemite fittings. After experimenting with every known method of packaging their Alemite lubrication fittings for automotive purposes, Stewart-Warner adopts packages made of VISQUEEN film. It's strong, tear-proof—holds huskiest fittings. Transparent—it displays packages' contents at a glance. Keeps costs down, too.

A BIG packaging problem? The Columbia Ideal Quilting Co., Inc., manufacturers of the quilt and mattress pad pictured, really had one. Selected VISQUEEN film because it seals out moisture, dust, air, contamination. And because it displays their product so attractively. Mattress pad is 20" x 14" x 3". Quilt—23" x 19" x 3". New packaging resulted in a spectacular rise in sales.

Selling three cakes of soap instead of one. That's what the Wrisley Company—manufacturers of Olivilo Soap did when they wrapped three bars in the good-looking VISQUEEN film package you see pictured here. In addition to being an attractive transparent package, the VISQUEEN film serves as a useful food bag when soap is removed.

International Silver's Radically New Packaging—made of *VISQUEEN* film. Former wrapping failed to seal out air caused tarnish. Retailers had to unwrap each piece separately to select pieces. Now, strong heat-sealed *VISQUEEN* film envelopes lock out air, are transparent and have printability that gives instant identification. Satin-smooth *VISQUEEN* prevents scratching of fine sterling.

VISQUEEN film drastically cuts shipping costs. Manufacturers of Simmons Stock-Gro, by-product animal feed containing 66% solids, 38% milk sugar and 12% lactic acid found cheaper, lighter packaging with VISQUEEN film—inserted in strong paper container. In startling test, 50-lb. VISQUEEN film bags were dropped repeatedly from 10-ft. heights — without breakage or leakage!

Approved by Good Housekeeping

If you have a packaging problem that calls for the modern approach—find out what Visqueen film can do for you. Write for samples and complete information.

VisQueen FILM . . . A PRODUCT OF THE **VISKING** CORPORATION

PRESTON DIVISION • TERRE HAUTE, INDIANA

*T. M. The Visking Corporation

D. C. Lathrop, Los Angeles, representative of Phoenix Metal Cap Co., has moved to a new business address, 1855 Industrial street.

Standard-Knapp, division of Hartford-Empire Co., Portland, Conn., manufacturer of automatic packaging machinery, has opened a sales and service office at 800 Peachtree street, Atlanta, Ga. William T. Hughes will be district manager of the new branch, which will cover southeastern area.

Gilbert C. Swanson has been named president of C. A. Swanson & Sons, Omaha, Neb. He fills the vacancy created by the recent death of his father, C. A. Swanson.

J. S. (Jack) Hewitt, sales vice president of The Andrew Jergens Company, Cincinnati, retired from that position December 1. He will reside in Florida, where he will manage the Jergens-Woodbury business.

William F. Leicester, a leader in development of the casein glue industry, has been honored for 25 years service with The Borden Company. Mr. Leicester, vice president of the concern's chemical division, and 14 others received diamond-set gold pins. Theodore G. Montague, president of Borden's, made the presentations to employees of the company's national executive offices at the annual Quarter Century Club banquet in New York City last month. Of the group, 3 employees were honored for 40 years service. Mr. Montague pointed out that Mr. Leicester, born and educated in England, was responsible for the de-

Protective Packaging
FOR AMERICA'S FINEST FOODS
MARATHON

64

which use intermittent motion for feed. A properly adjusted corrugating device will double or triple the distance a thin film can be pushed without buckling, he added, and an air jet is very useful in the feeding of such films. Knives of the shear type, either rotary or oscillating give best performance for cutting single strips of the thinner films, Mr. Farrelly continued. Other suggestions included: "A small vaporizer, wet cloths hung so as to contact the unwinding roll, or static eliminators will be helpful. Either an oscillating or a rotating type of sealing plate

WALTER FARRELLY, packaging supervisor, Gillingham Division, E. I. duPont de Nemours & Co., Inc., Wilmington, Del., said that "although machine operation depends on close attention to detail" in enumerating his remarks which gave the audience 14 pointers on obtaining more efficient use of films.

PACKAGING—[illegible]—JUNE, 1949

their Alemite fittings!

Another tough packaging problem solved with *VisQueen** film

Stewart-Warner Corporation's Alemite lubrication fittings are standard equipment on practically every passenger car, truck and farm implement you can name. As you'd expect, there's a sizeable market for Alemite replacement fittings. And for years, the Stewart-Warner people have sought the answer to this big question: How can we best display and package our product?

They tried every known method—ranging from counter display cabinets with revolving bins to cardboard cartons. But elaborate or simple—they were *not* the answer to Alemite's problem.

Then they tried Visqueen Film! Strong and tearproof enough to hold the huskiest fittings—transparent enough to display the packages' contents at a glance, Visqueen film looked promising. Thorough testing proved that Visqueen "had it" on every count—including low cost.

Late reports from automotive and farm implement dealers indicate that the new self-displaying Alemite packages are a smashing sales success. And if you'd like to see how Visqueen film's habit of solving tough packaging problems can help you—write us today. Samples of Visqueen film sent on request.

WARNING!

Be Not Confuse Visqueen with Ordinary Polyethylene Film

All polyethylene film is not VISQUEEN. VISQUEEN is the product of years of experience and research on the part of The Visking Corporation, pioneers in the development of this material. Only *VISQUEEN* has the benefit of this rich technical background. Always be sure to specify VISQUEEN Film.

Guaranteed by Good Housekeeping

*VisQueen** film . . . a product of

the VISKING corporation

PRESTON DIVISION, TERRE HAUTE, INDIANA

The Visking Corporation, Chicago 38, Illinois, manufacturers of Visking** casings, Visqueen* plastic film and Vishon* nonwoven fabric. Plants in Chicago, Illinois; Terre Haute, Indiana; North Little Rock, Arkansas. **Reg. U.S. Pat. Off. *Trademark

Good Packaging

M 5230

Defendant's Exhibit No. 277

uct), provide a uniformity of quality not currently obtainable in competitive low-cost films, he said. . . . Commercial production of maleic anhydride in briquette form also has been announced by Monsanto Chemical Company, St. Louis. In making the announcement, A. D. Evans, in charge of sales of the product, pointed out that this new molded form is designed for maximum ease and safety in handling as well as processing efficiency. "The uniformity of the briquettes," he said, "and the absence of dust and fines, which are screened out, make them particularly attractive to plant men." Moisture pick-up and subsequent hydrolysis are held to a minimum because of the small exposed surface per unit weight. "There is no increase in price over our regular schedule," Mr. Evans said. "The briquettes are offered in addition to the flake and fused forms to make maleic anhydride available in the form best suited to the needs of each consumer." Heretofore, maleic anhydride has been used principally in the surface coating industry for the manufacture of modified alkyds, hard resins and non-yellowing drying oils. "However, the continued volume availability of this versatile chemical building block," Mr. Evans stated, "has led to increased interest in other fields such as pharmaceuticals, wetting agents and plastics."

Reynolds Metals Deal

C. E. Erickson, president, C. E. Erickson Company, Inc., Des Moines, Ia., and D. P. Reynolds, vice president and manager, general sales division, Reynolds Metals Company, Louisville, Ky., have announced signing of a contract by which Reynolds becomes exclusive sales outlet for Erickson aluminum milk bottle case. The Erickson Company will continue to manufacture the case. The Erickson aluminum case will be sold through the 20 field offices of Reynolds Metals Foil Division, with present headquarters at Richmond, Va. Aluminum case made an impressive showing in recent tests throughout the country. Filled with loaded bottles and allowed to slide down an 8-foot long ramp at a 33 1/3 degree angle to crash into a solid object at the bottom, case breaks only a few bottles in a hundred or more slides down the ramp. Conventional cases, Reynolds said, break several bottles on almost every trip down. Actual tests made at more than 100 of the largest dairies showed the Erickson case broke less than 2 bottles per thousand, whereas conventional cases broke over 128 bottles per thousand, more than 70 times as many broken bottles as the aluminum case. Another advantage is that case can be sterilized.

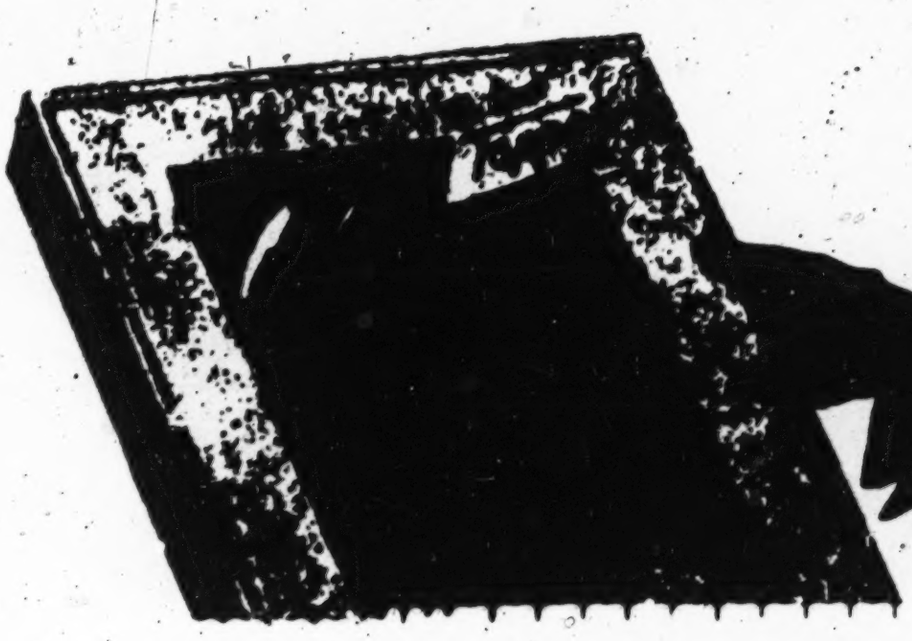
Business Anniversaries

Two business anniversaries were celebrated recently, one marking the 50th year of Oxford Paper Co., New

Sell the Shopper

who is

"JUST LOOKING"



NON-FOGGING LUMARITH TRANSPARENT FILM

THE "Breathing" WRAP

There's no place for foggy, limp, slimy wraps in your self-service department. Here's where you need Lumarith -the film that's always crystal clear . . . always crisp and dry to the touch. Lumarith permits fresh foods to "breathe," because it's gas permeable . . . admits oxygen for freshness, flavor and color protection.

UNCOATED FILM

Lumarith is an uncoated film . . . heat seals either side (seals through several folds) . . . cements instantly and permanently . . . is waterproof and greaseproof.

Celanese Corporation of America, Transparent Films Dept. 14-J, Plastics Division, 180 Madison Ave., New York 16, N.Y.

A Celanese* PLASTIC

*Reg. U. S. Pat. Off.

Pre-Pack-Age

CRANBERRIES

Unit-size boxes, with Lumarith windows, stack easily...eliminate breakage in handling . . . make colorful displays.

WIENERS

Ask about special Lumarith-lined window cartons that are completely greaseproof. Wieners and sausages won't dime or mold as rapidly with Lumarith.

PIES

New, handy-to-carry carton for self service pies makes for more convenience. No strings . . . pies can be packed hot . . . the "breathing" window keeps top crust fresh and flaky.

★ If you wish to learn more about Lumarith, the "breathing" wrap, mail the coupon below.

CELANESE CORPORATION OF AMERICA, Dept. 14-J
180 Madison Avenue, New York 16, N. Y.

Send me information about:
☐ Lumarith, the "breathing" wrap
☐ Lumarith window boxes

Name_____

Address_____

City_____ State_____

Oct 1949

M 5229

Defendant's Exhibit No. 274

1 REAL TRANSPARENCY

That's the first requirement of an effective package in these hard-selling days. The crystal-clear transparency of Du Pont Cellophane shows all the appetite-appealing goodness of a product . . . makes it a powerful sell-seller.

2 RIGHT PROTECTION

That means protective packaging scientifically tailored to meet a product's needs. Du Pont Cellophane provides the moistureproof protection this product needs to safeguard original quality. (There are over 30 different types of Du Pont transparent films to furnish many types of protection for individual product needs. Also Cellulose Acetate and Polythene films.)

(2)

3 TRUE ECONOMY

That calls for a packaging material that will deliver effective selling power and effective protection. In addition, a packaging material which works efficiently on high-speed automatic packaging machinery. This Du Pont Cellophane package is truly economical because it meets all these specifications.

Defendant's Exhibit No. 275

laminated field where he was a sales engineer, responsible for the selling of laminated stock as well as rendering technical assistance. He is a member of the American Institute of Electrical Engineers.

After more than 30 years of service to his company, Ralph W. Mudgett, manager of the Chicago Office of Nashua Gummed & Coated Paper Company, retired last month. Richard L. Newcomb and Charles E. Leake succeed him in conducting the Chicago Office and in covering midwest territory. At a meeting of directors of Nashua Gummed & Coated Paper Company in Nashua, N. H., James R. Carter II, Walter F. Evans, and Donald Ramsay were elected vice presidents. Winthrop L. Carter, Jr., was elected assistant treasurer.

Union Paste Co., Hyde Park, Mass., has announced several new appointments in the field and a reorganization of service facilities in its main office. Michael M. Kirk will represent the company in New York state area. He has had considerable experience in laboratory and technical field work on adhesives. Robert K. Crowell, New Rochelle, N. Y., will be regional sales manager of New York and Philadelphia areas. He formerly represented Union Paste in New York territory. Director of company's newly created customers' service department is George I. Snow. This department, Union Paste explained, combines all services of the sales and order departments in one area.

D. C. Lathrop, Los Angeles, representative of Phoenix Metal Cap Co., has moved to a new business address, 1855 Industrial street.

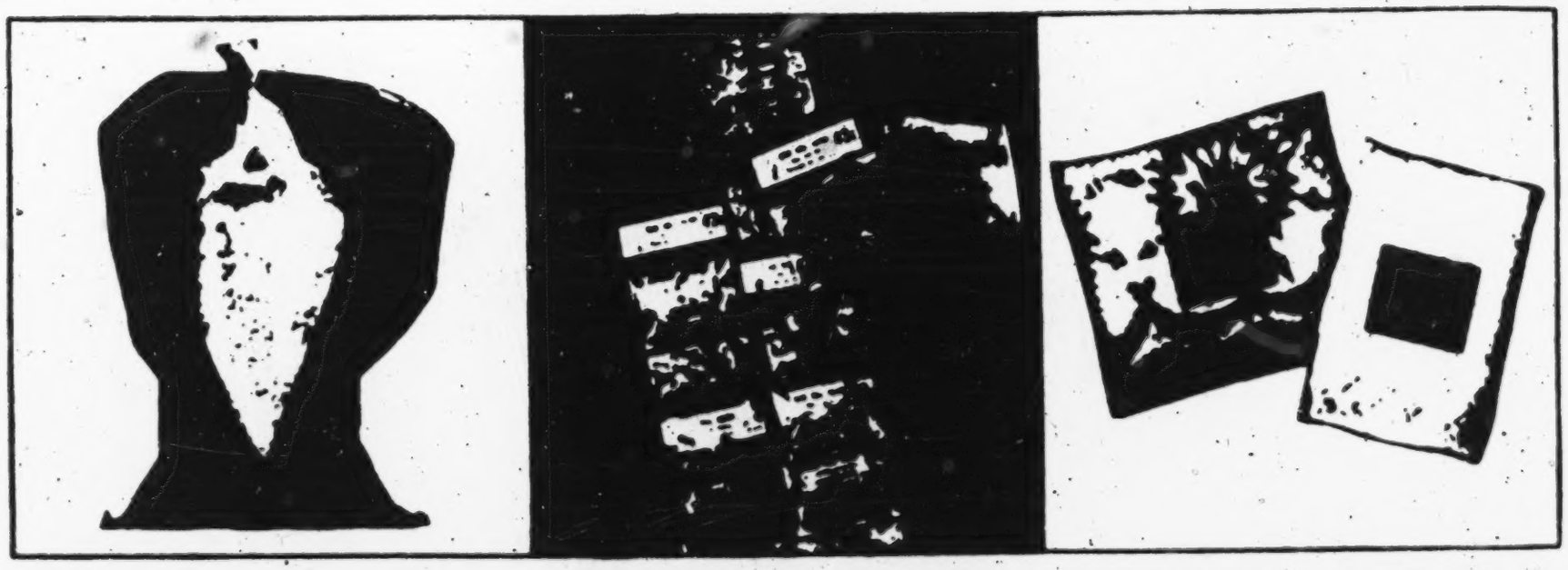
Standard-Knapp, division of Hartford-Empire Co., Portland, Conn., manufacturer of automatic packaging machinery, has opened a sales and service office at 800 Peachtree street, Atlanta, Ga. William T.

Canning Field Threesome

AGGRESSIVE merchandising by the canning industry to maintain current sales of canned foods and to improve their consumer sales position was urged by Harold J. Jaeger (right), marketing director of the Can Manufacturers Institute, New York, in a speech last month before the convention of Wisconsin Canners Association in Milwaukee. Mr. Jaeger is shown at the speakers' table with C. A. Friday (left), president of the Wisconsin Canners Association, and M. P. Verbeist (center), executive secretary of the group. (Story of meeting on page 19.)

Typical packaging problems

SOLVED WITH VisQueen® FILM



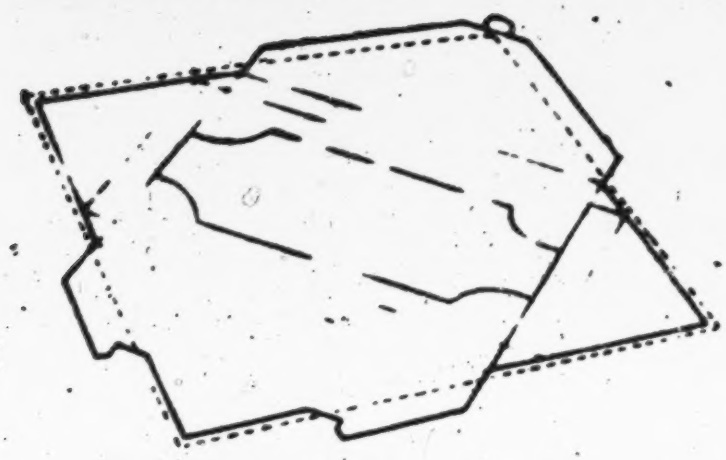
Keeping dry powdered skim milk DRY, free-flowing and sterile was a tough problem with former packaging methods. Product picks up moisture, cakes into big solid lumps. Arkell Safety Bag Co. of Chicago consulted Visking engineers who developed this moisture-proof bag made of VISQUEEN film. Safer, longer storage of

How Stewart-Warner gets millions to eye and buy their Alemite fittings. After experimenting with every known method of packaging their Alemite lubrication fittings for automotive purposes, Stewart-Warner adopts packages made of VISQUEEN film. It's strong, tear-proof—holds huskiest fittings. Transparent—it displays packages'

A BIG packaging problem? The Columbia Ideal Quilting Co., Inc., manufacturers of the quilt and mattress pad pictured, really had one. Selected VISQUEEN film because it seals out moisture, dust, air contamination. And because it displays their product so attractively. Mattress pad is 20" x 14" x 3". Quilt—23" x 19" x 3". New packaging

Defendant's Exhibit No. 276

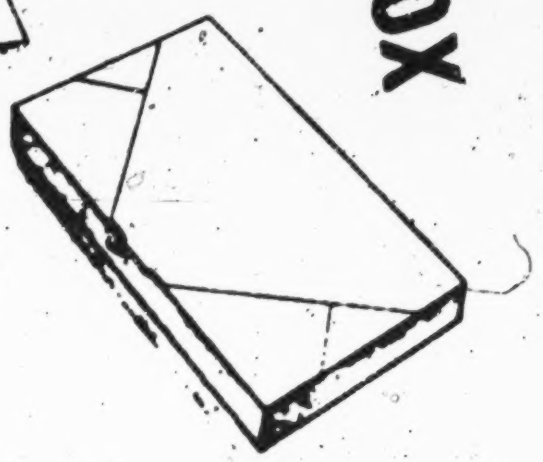
LUMARITH* (ACETATE) LINED ... FOLDING WINDOW BOX



NEW PACKAGING METHOD

INHIBITS MOLD...

BOOSTS SELF SERVICE SALES



DISPLAYS! Prepared meats become

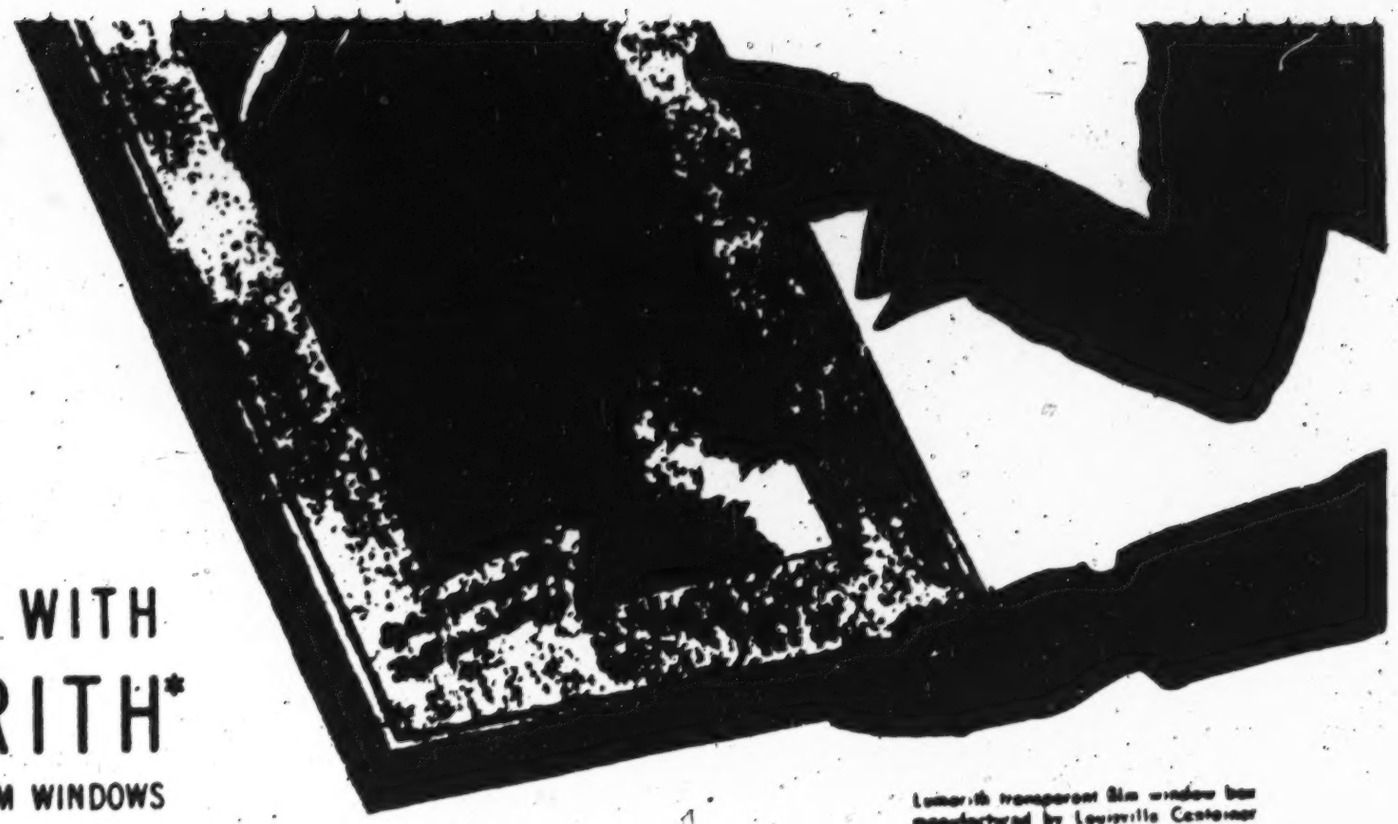
tics."

Reynolds Metals Deal

C. E. Erickson, president, C. E. Erickson Company, Inc., Des Moines, Ia., and D. P. Reynolds, vice president and manager, general sales division, Reynolds Metals Company, Louisville, Ky., have announced signing of a contract by which Reynolds becomes exclusive

Joins Container Lab

ALLYN C. BEARDSELL, formerly headquarters supervisor of merchandise packaging and warehouse methods, Western Electric Co., is now on the staff of Container Laboratories, Inc., New York City. The latter operates laboratories in New York, San Francisco and Chicago for engineering, consultation, research and testing services in the fields of packaging, handling and shipping. During war years, as an active member of American Society of Testing Materials, he served on Committee D-10 for Shipping Containers.



Lumarith transparent film window box manufactured by Louisville Container Corporation, Louisville, Kentucky

PACKAGE WITH
LUMARITH*
TRANSPARENT FILM WINDOWS

Packages with Lumarith transparent film windows build sales on admiring looks.
They tell the product story at a glance—supplying the answers to shopper's questions
while protecting the merchandise.

Lumarith transparent film is crystal clear . . . produces flat, wrinkle-free windows.
Its satin-smooth surface is ideal for printed messages.

Get together with your supplier and his Celanese representative and discover
the selling power and *true* economy of Lumarith.

Celanese Corporation of America,
Transparent Films Dept. 9-L,
180 Madison Avenue, New York 16, N. Y.

Celanese
PLASTICS

*Reg. U. S. Pat. Off.

47

Defendant's Exhibit No. 273

Oct 31, 1949: Identified

A New Way to Sell

that means faster turnover, better profit!

4 out of 5 shoppers pick **Pliofilm** over other packs

HERE'S the most practical, profitable container yet developed for packaging heavier-weight fruits and vegetables to speed up sales—get greater profits.

It's the new **Pliofilm** super-market bag—so tough and strong, it can take all kinds of rough handling.

What's more, **Pliofilm** is transparent—the customer can see *all* of what she's getting. It's moisture-tight, keeps the contents fresh and juicy far longer than conventional bags. And the **Pliofilm** bag, when emptied, has many home re-uses.

Best of all, it's been proved that **Pliofilm** bagged products move faster! In leading cities, **Pliofilm** protected oranges, when displayed side by side with others, have outsold them *—as much as 4 to 1!*

Packing oranges, apples, other fruits and vegetables? Get the facts on this sales-booster now. Write: Goodyear, Pliofilm Dept., Akron 16, Ohio.

Good things are better in

Pliofilm®

3-way protection against air, moisture, liquids

GOODYEAR

THE GREATEST NAME IN RUBBER

Food Topics

3 TRUE ECONOMIES

That calls for a packaging material that will deliver effective selling power and effective protection. In addition, a packaging material which works efficiently on high-speed automatic packaging machinery. This Du Pont Cellophane package is truly economical because it meets all these specifications.

It takes all 3 for an effective package

Does your package fall short of any of these requirements? It will pay you to discuss your packaging problems with the converters of Cellophane—or with Du Pont packaging specialists.

They'll be glad to work with you in developing a package that is geared to modern merchandising.

E. I. du Pont de Nemours & Co. (Inc.), Cellophane Division, Wilmington 98, Del.

25th DU PONT CELLOPHANE Serving the packaging industry since 1924

DuPont Cellophane

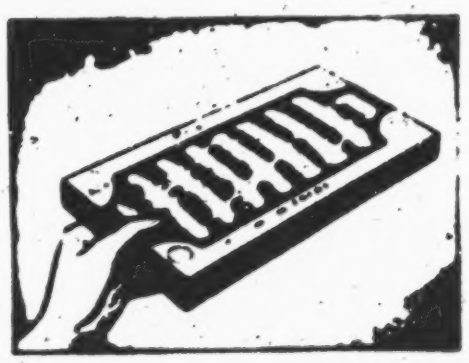
Shows what it Protects
Protects what it Shows

DU PONT

BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

Celanese Lumarith-lined window box, patented and manufactured by Interstate Folding Box Company, for Cudahy of Cudahy, Wisconsin.

DISPLAYS! Prepared meats become real sales producers when they are displayed in these attractive window boxes.



VISIBILITY! The non-fogging Lumarith window guarantees the shopper a good look at the contents . . . the buys with confidence.

DISPENSER! The handy dispenser container is at home in the refrigerator . . . keeps the brand name before the consumer.

The Lumarith-lined *folding* window box is a new idea in self service food packaging. It answers the meat packer's need for a sales-attractive, grease-proof package—that the shopper can handle as safely as a box of corn flakes.

The Lumarith transparent film window is actually a complete liner—*the only part of the container that touches the food.* Sausage, franks, dried beef, bacon and luncheon meats can be packaged in consumer-unit sizes that make perfect home dispensers—protecting and identifying the contents.

In the self service cabinet, these Lumarith-lined window boxes make appealing displays. Lumarith—the "breathing" wrap—never fogs up . . . is always crisp and crystal clear. The same breathing quality helps retard the formation of mold and slime. This means virtually no returns or replacements.

If you'd like to receive more information about this new packaging method, get in touch with a Celanese representative. Celanese Corporation of America, Transparent Films Dept. 14-L, 180 Madison Avenue, New York 16, N. Y.

LUMARITH TRANSPARENT FILM

Celanese* PLASTICS

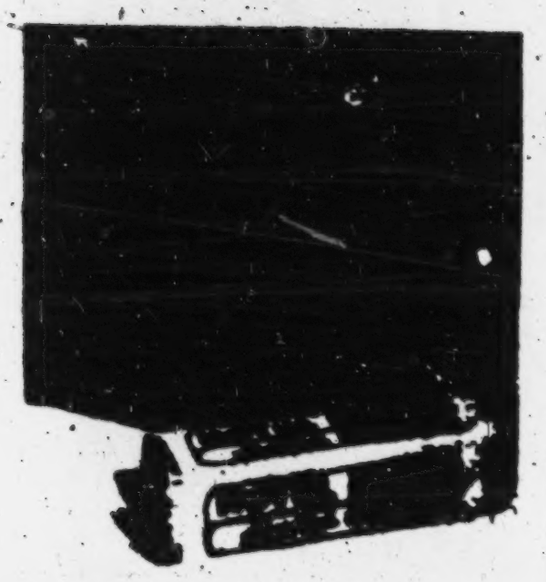
*Reg. U. S. Pat. Off.

Pre-Pack-Age

Dec. 1949

3

Defendant's Exhibit No. 278

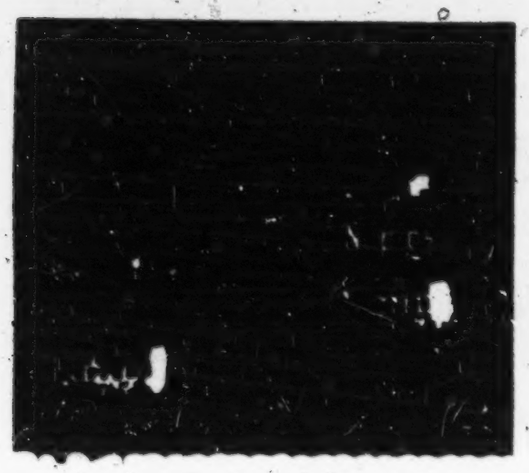


provide a storage spot when glove ring is not in use. Product attaches gloves to hand bags to prevent loss and dropping. *Credits: Gold foil box by J. E. Sales Corp., Transparent Container Div., New York; transparent top is Lumarith, a registered trademark for Celanese Corporation of America's acetate plastic.*

harmful effects of light penetration, the user has reported. Paper so treated also retains qualities of regular parchment, being moisture and grease proof. *Credits: Hotel Bar Butter Co., New York, developed the heat-sealed wax wrapper; treated parchment produced by Paterson Parchment Paper Co., Bristol, Pa.*

◆

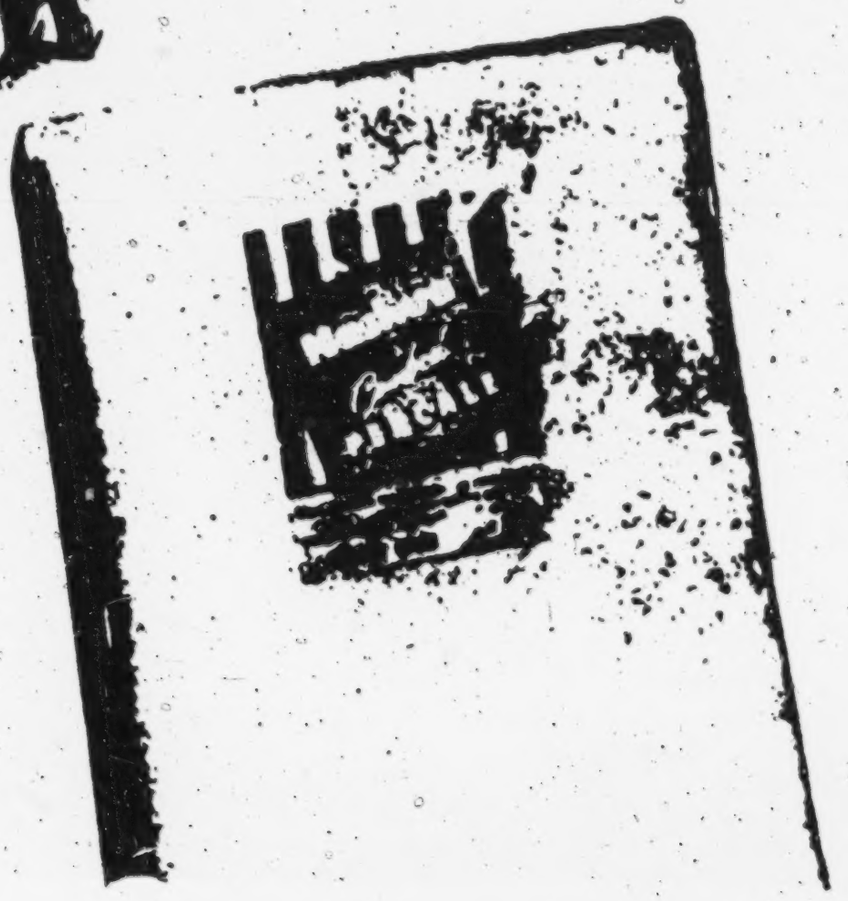
Cured In Jar—The Hot Cherry Peppers and Hot Finger Peppers, packed by G. Capaldi & Son, Inc., Watertown, Mass., are cured right in the jar. Cider vinegar, water and salt are other ingredients. Company has reported that, on experimental



Wine Statistical Survey—Steadily increasing popularity of wine for mealtime and entertainment use has lifted average monthly consumption in the United States to over 10 million gallons, according to Part III of the 13th Annual Wine Industry Statistical Survey, prepared by the Wine Institute for the Wine Advisory Board. The survey, which reports apparent consumption on a crop year basis, July 1st to June 30th, shows that national use of commercially-produced wine has climbed in the last decade from an average of 68 million gallons a year to 125,623,000 gallons for the 1948-49 year. This compares with the 1946-47 total of 109,837,000 gallons and the 115,069,000 gallon figure in

No more soilage due to handling!

Best way to tell a



Defendant's Exhibit No. 279

Pliofilm PACKAGING EQUIPMENT — And where you can get it

LABELS AND HEAT SEALING EQUIPMENT

Most heat sealing labels will work with Pliofilm—some won't. Make sure your labels do. The important thing is to get low heat activated labels, and these are readily available.

Existing heat sealing equipment will generally work with Pliofilm, provided the heat can be turned down to at least 250°F., and provided you do not slide the heating elements over Pliofilm unless they are covered with Teflon. A patting action to effect the seal is recommended when irons are used. A new type roller iron allows the iron to be easily rolled over the film effecting excellent seals. The film seals easily, and with a little practice, high wrapping speeds can be achieved. (See wrapping and sealing pork chops illustrated in this folder.)

Suggested sources of supply are:

Sealing Irons and Plates	Labels
Cleveland Lathe & Machine Co. 676 Broadway Cleveland 15, Ohio	A. Kimball Co. 307 West Broadway New York 13, New York
The Greenberg Electric Co. 1017 George Street Brooklyn 27, New York	The Mead Sales Co. 117 North Ludlow Avenue Dayton 2, Ohio
Miller Wrapping & Sealing Machine Co. 18 South Union Street Chicago 6, Illinois	Miller and Miller 136 Marietta St., N.W. Atlanta, Georgia
Wells Manufacturing Co. 220 North Street San Francisco 3, California	Tompkins Label Service Frankford and Allegheny Philadelphia 34, Pennsylvania

CUTTERS AND SHEETERS

Both Fulman and McClintock roll cutters work well with Pliofilm and sheets can easily be torn as needed.

An inexpensive hand sheeter, selling for about $50.00, is available from C. P. Wagner & Bro., Inc., 321 Tchoupitoulas Street, New Orleans, La. Production of 100 sheets per minute is easily possible. The economies from the use of roll film make this a worthwhile purchase.

WHAT ABOUT PLIOFILM FOR YOUR PRODUCE AND CHEESE DEPARTMENTS?

There's a Pliofilm for every store level pre-packaging operation. You can bag or wrap fruit and produce. Pliofilm gives them a new sales sparkle. It reduces shrivel, weight losses and waste. Cheeses pre-packaged in Pliofilm keep all the fresh moistness and dairy goodness inside the package. Discoloration, mold and mold are eliminated. You can use either FM 1 Pliofilm or a film developed especially for cheese — 36 N.

Give your customers speedy service, attractive, sanitary Pliofilm packages. They'll love it, and be back for more. For full details, write to:

PLIOFILM SALES DEPARTMENT

The Goodyear Tire & Rubber Company, Inc. **Akron 16, Ohio**

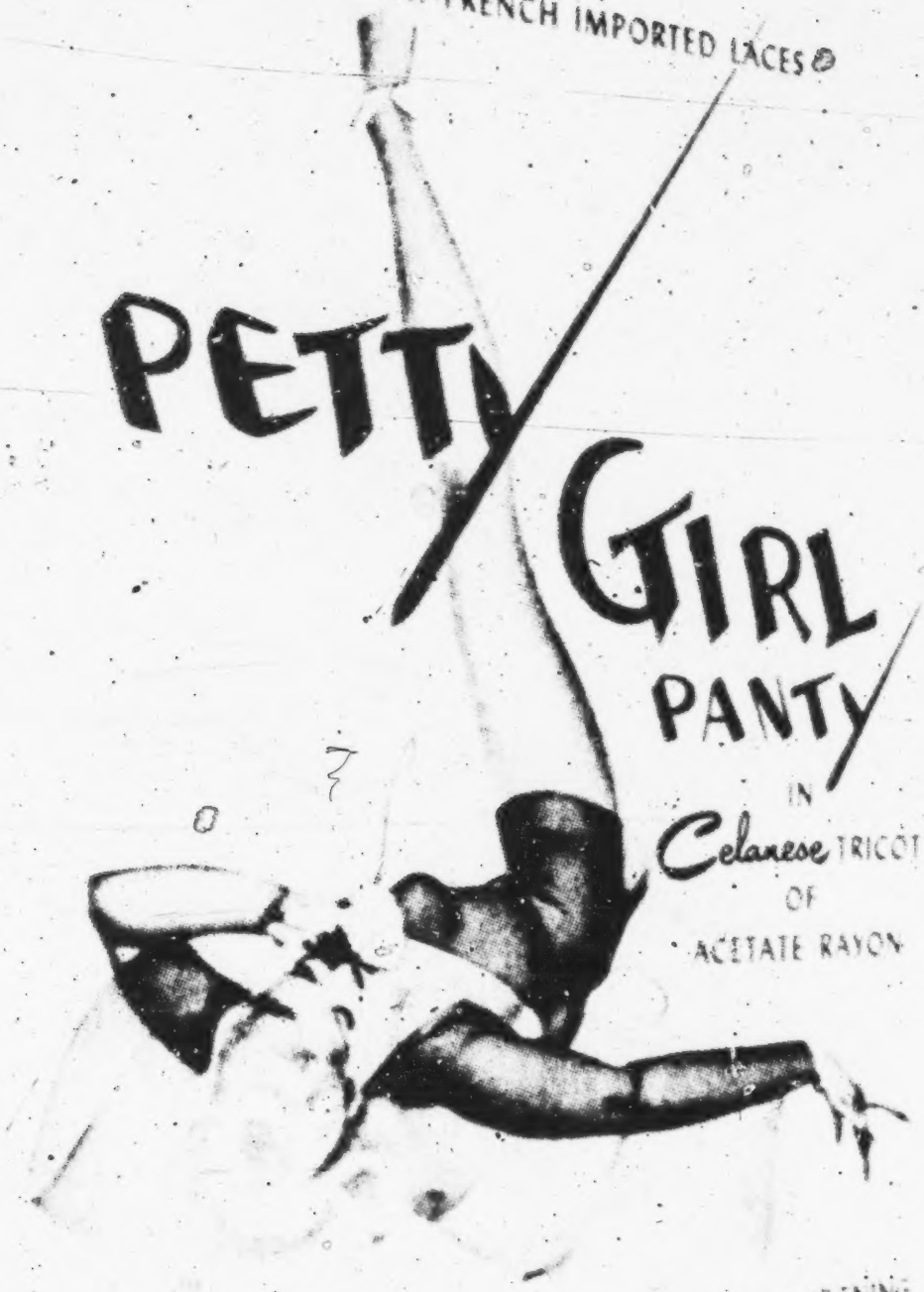
It's the new packaging film that gives you exactly what you want toughness, economy, shelf life, appearance, ease of handling.

Defendant's Exhibit No. 280

STYLED WITH FRENCH IMPORTED LACES

PETTY GIRL PANTY

IN *Celanese* TRICOT OF ACETATE RAYON



EASY TO WASH • NEEDS NO IRONING
INDIVIDUALLY CELLOPHANE PACKAGED

A PRODUCT OF NATURE GIRL UNDIES INC.

Famous Girl.

Famous package

It's MILPRINT LITHOGRAPHY

Call your Milprint man and talk it over!

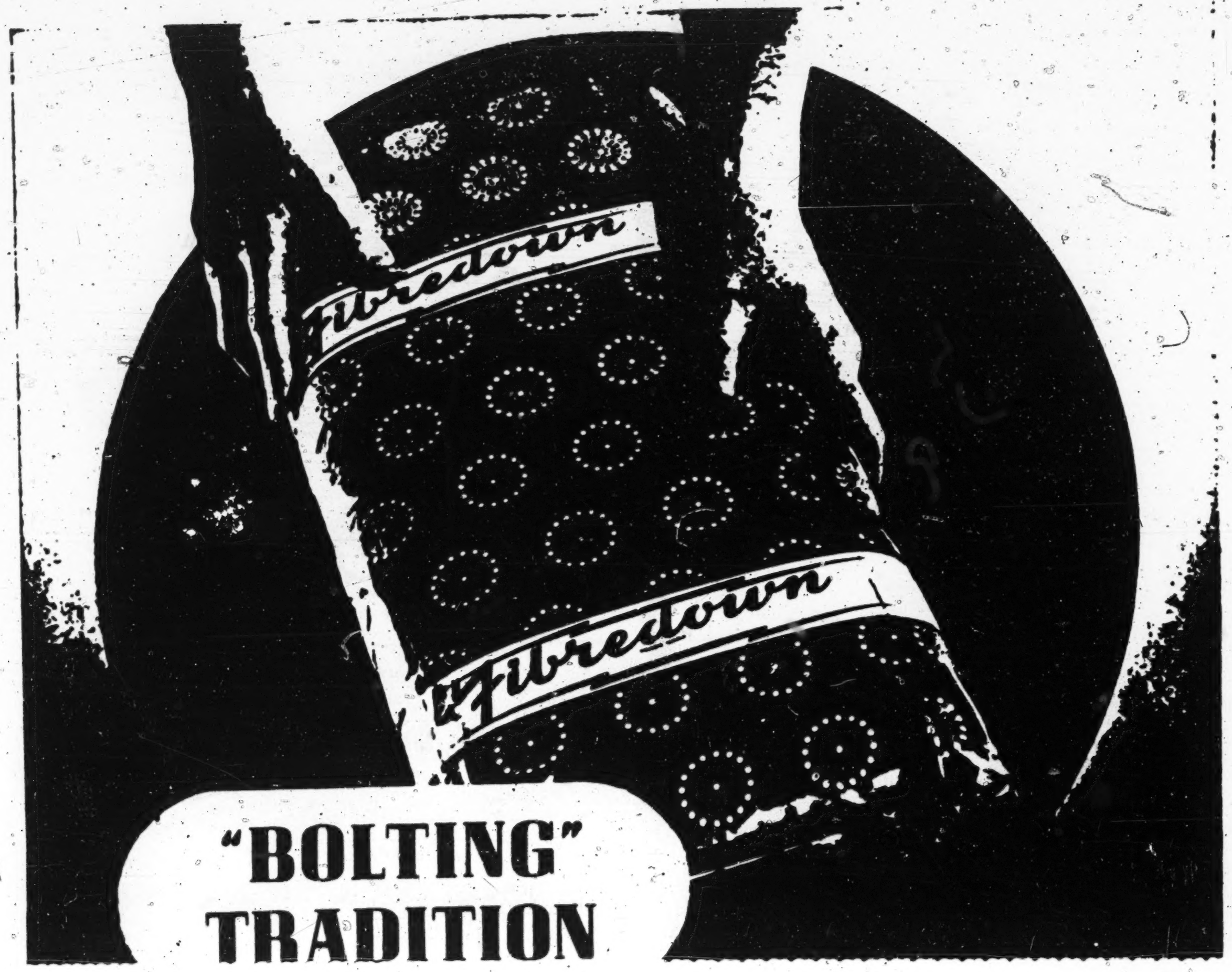
Defendant's Exhibit No. 281

Packages Illustrated, Milprint Rotogravure Printed Cellophane Carton Overwraps

these Milprint packages

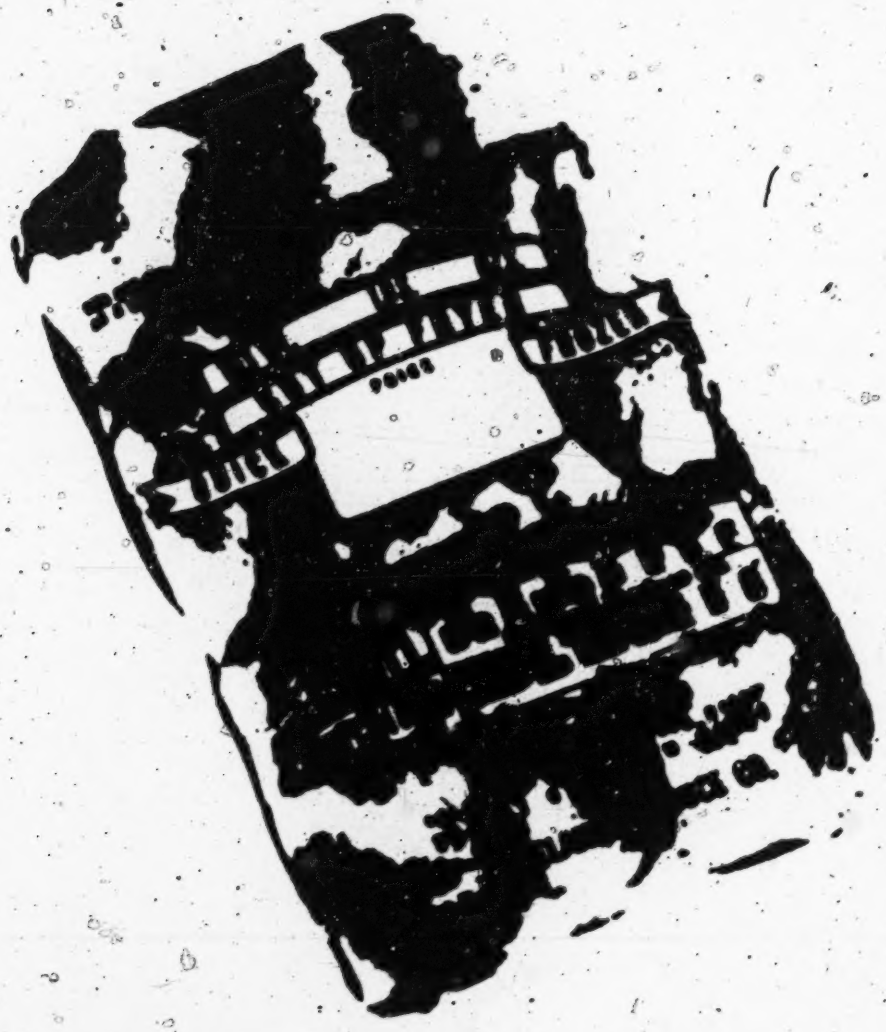
invite themselves to dinner!

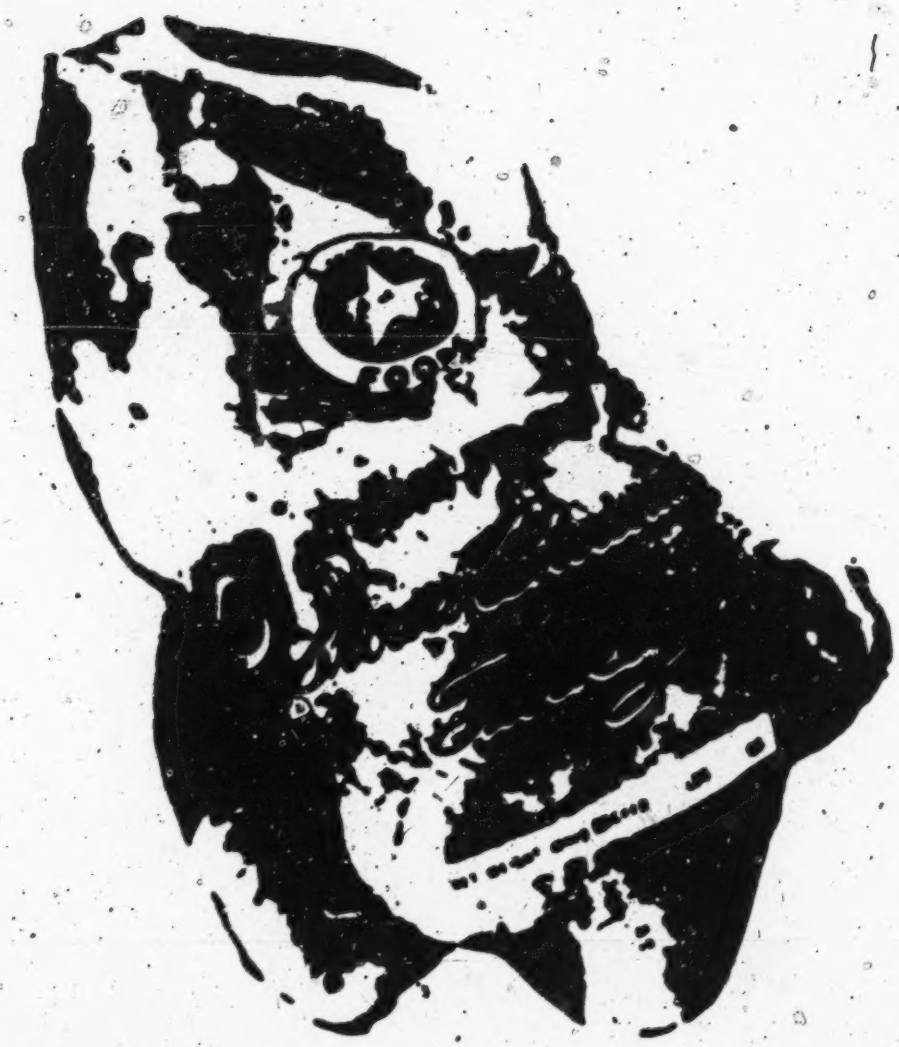
Defendant's Exhibit No. 282



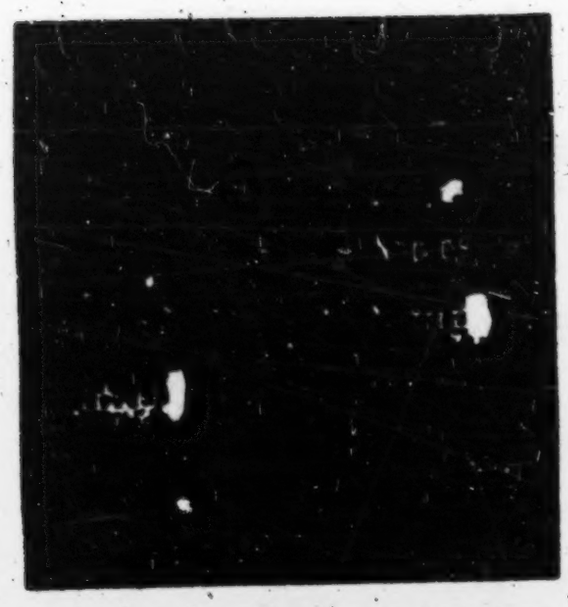
"BOLTING" TRADITION

Defendant's Exhibit No. 283





POULTRY AND

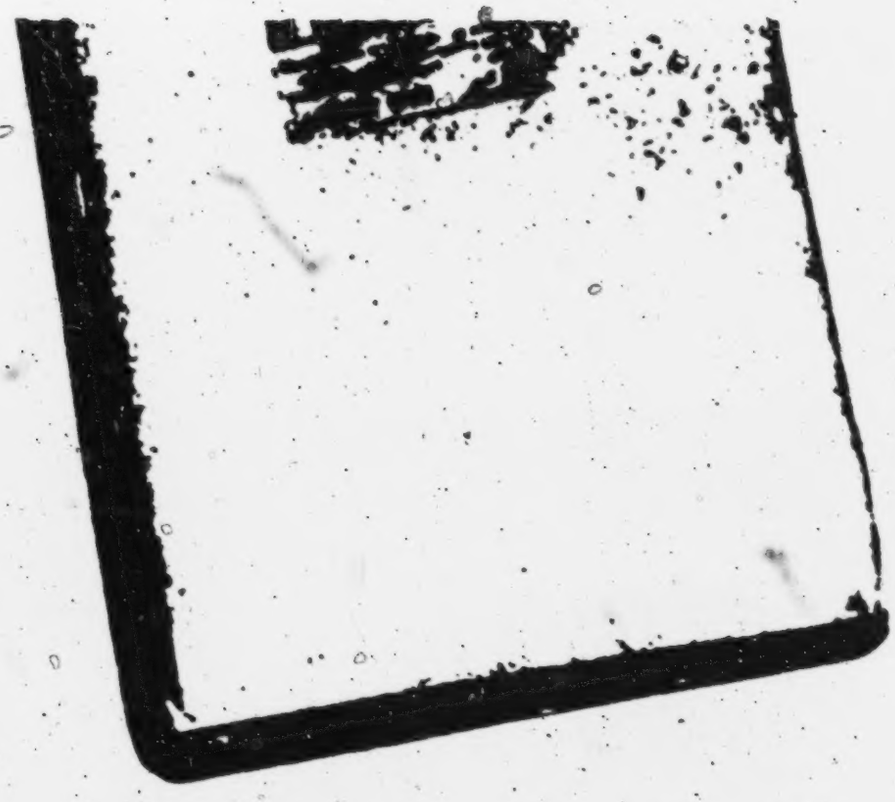


packs, peppers remained firm even after 2 years, without penetration of vinegar inside pepper. *Credit: Peppers packed in Anchorglass plain round jars in 15½ ounce and quart capacities, sealed with lug style decorated closures; jars supplied by Anchor Hocking Glass Corp., Lancaster, O.*

◆

New Product, New Pack—A satin-lined gold foil box with a transparent top serves to introduce a comparatively new product, Abon glove ring. Box is sufficiently sturdy to

to tell a bedtime story



now all textiles look better, sell faster, keep cleaner,

ADD textiles to the long list of products now enjoying the matchless protection and sales appeal of rugged, tough **Pliofilm** wrapping!

Leading mills are now packaging pillow cases, sheets, towels, tablecloths, shirts, pajamas, in this magic Goodyear film, for these very sound reasons:

***Pliofilm's** superior strength greatly reduces the breakage problem, prevents soiled goods or returns, assures the purchaser clean, sanitary merchandise.*

*With **Pliofilm**, no intermediate, outer protective packaging is needed. Thus **Pliofilm** packaging frequently cuts your costs!*

***Pliofilm** saves space and packing charges; one shipping case may hold as many as ten to twelve dozen packages.*

***Pliofilm** prints clearly. Puncture-resistant, it*

PACKAGING PARADE, JANUARY, 1950

It's the new packaging film that gives you exactly what you want — toughness, economy, shelf-life, appearance, ease of handling.

Shoppers like to choose and pick, and see what they buy. The new FM-1 Pliofilm "stands" this rigid customer inspection to give YOU protection. HOW? Because Pliofilm is tough and tear-puncture resistant. It eliminates expensive re-wraps and double wraps. It has a natural stretch that makes wrapping easy. Even inexperienced clerks can become packaging experts in a short time, and use less film per wrap while they're doing it.

There's real down-to-earth economy in Pliofilm because of the high film yield in each pound of film. It's manufactured in either rolls or cut-to-size sheets.

Type	30 FM-1	100 FM-1
Gauge	.0008"	.0010"
Yield in square inches per lb.	37,000	24,000

Dollar for dollar, FM-1 Pliofilm gives retailers more food protection and packaging film value. Tight, glare-free wraps enhance the fresh, wholesome appearance of displayed meats. Red meat "bloom" retention is excellent. Only one film, using either side, is used for all meats.

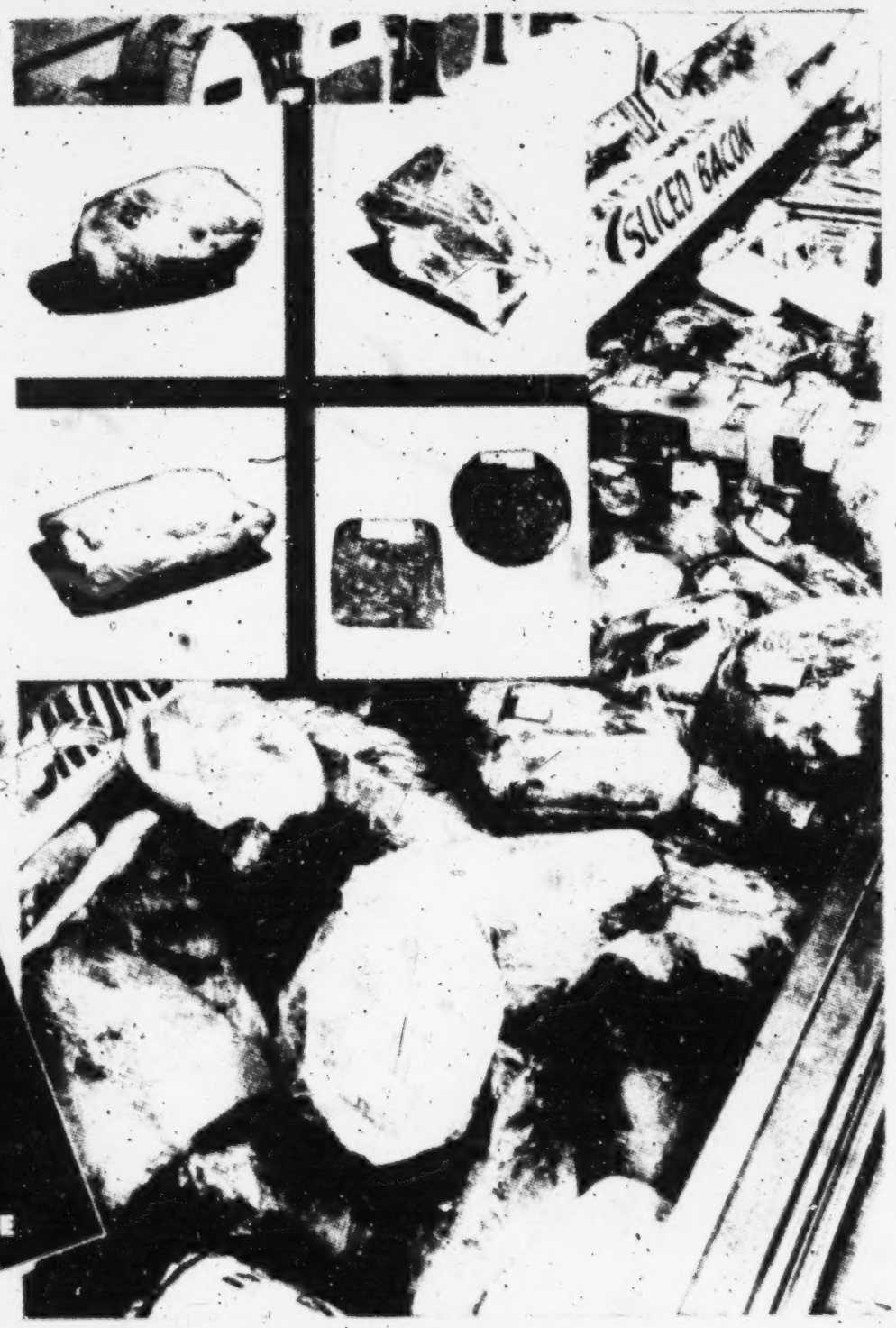
Satisfied shoppers become contented, permanent customers.

Get some Pliofilm and let it prove itself you'll like it.

- ONE FILM, EITHER SIDE, FOR ALL MEATS
- IN ROLLS OR CUT-TO-SIZE SHEETS
- GOOD FOR LUNCHEON MEATS - COLD CUTS
- BEST FOR ROUGH, JAGGED CUTS OF MEAT
- TOUGHER FILM
- ELIMINATES RE-WRAPPING
- TEAR PUNCTURE RESISTANT
- HEAT SEALS EASILY, QUICKLY
- WON'T SHATTER OR RUN
- LESS FILM NEEDED PER WRAP
- NO "DOUBLE" WRAPS
- TIGHTER, SANITARY PACKAGES
- "ECONOMICAL" BIG FILM YIELD

HERE'S WHY FM-1 Pliofilm IS BEST FOR SELF-SERVE MEAT PACKAGING

★ EXCELLENT RED BLOOM RETENTION



Fresh meat wrapped in glare-free Pliofilm has a "natural" look that speeds up the buying

GOOD THINGS ARE BETTER IN Pliofilm

There's no "trick" to packaging with FM-1 Pliofilm. The 6 pictures show how easily and neatly bulky, irregular meat cuts can be packaged.

Holder (Goodyear)

Jan 1951

EASY TO WASH • NEEDS NO IRONING
INDIVIDUALLY CELLOPHANE PACKAGED

A PRODUCT OF NATURE GIRL UNDIES, INC

SIZE 6

Call your Milprint man and talk it over!

Take the word of the Artist!

GEORGE PETTY

Milprint INC
PACKAGING MATERIALS
LITHOGRAPHY & PRINTING

GENERAL OFFICES, MILWAUKEE, WIS.
SALES OFFICES IN PRINCIPAL CITIES

Give Your Product a Helping Hand at the Point of Sale

Printed Cellophane, Plioflm, Polyethylene, Acetate, Glassine, Foils, Folding Cartons, Lithographed Displays, Printed Promotional Material

Modern Packaging

Oct 1951

Modern Packaging Jan. 1950

Defendant's Exhibit No. 284

MILPRINT'S NEW

Tifnee WRAPPER

Here is the first really distinctive new brand wrapper in years—Milprint's Tifnee—to make your bread look more appetizing and sell faster.

Tifnee doesn't tear easily when opened, can be re-closed with little effort to retain freshness. And the crisp look of the wrapper emphasizes the desirable "just out of the oven" look. Runs like a "breeze" on American or similar type wrapping machines.

Why not be first in your area to "steal the show" with the beautiful new Tifnee package? Contact your local Milprint man or write for samples today!

displays your bread at its BEST!

*T M Reg U S Pat Off G T & B CO

POULTRY AND TURKEY POUCHES

Shellmar's printed *Pliofilm pouches provide every marketing essential . . . protection, attractive display and brand identity. They will not become brittle at low temperatures, are easily filled, odorless and economical. Shellmar will gladly give you full information on how and when to use printed Pliofilm Poultry Pouches, with quotes on your requirements.

Sales Offices in Chicago, New York, Cincinnati, Denver, Detroit, Kansas City, Minneapolis, San Antonio, Atlanta, Baltimore, Boston, Philadelphia, Pittsburgh, Los Angeles, Salt Lake City, San Francisco, Seattle.

SHELLMAR

PRODUCTS CORPORATION

MOUNT VERNON OHIO

SOUTH GATE CALIF • ZANESVILLE OHIO

MEXICO CITY MEXICO • MEDELLIN COLOMBIA

PACKAGE MANUFACTURER · PRINTER · LAMINATOR · CONVERTER . . . CELLOPHANE · PLIOFILM · ACETATE · SARAN · VINYLS · FOILS · PAPERS · COATINGS

Back of Front Cover

Pre-Pack-Age

Dec 1952

No. 285

Saran

Saran film

is

For packaging jobs that must not fail, saran film is established in a class by itself. Saran film is ideal for packaging processed meats, natural cheeses, and other foodstuffs.

The innate toughness of this material, plus its extreme pliability, recommend it for a wide variety of products. It guards against drying out and protects original goodness against harmful exposure to air and moisture. Saran film can be folded and creased without injury, and it retains this flexibility for long periods over a wide temperature range.

In addition, the gas impermeability of saran film keeps out foreign odors and flavors and preserves the natural goodness of your product. For example, the meat packer has found saran film ideally suited for the packaging of liver sausage. Moreover, in natural cheese packaging, saran film eliminates costly waste resulting from rind formation, moisture loss and mold that lowers the salability of cheese.

4664 519

Saran

the ideal packaging film for be

WHAT IS *Saran film?*

Saran film is a thermoplastic film. It is basically a polyvinylidene chloride resin, exceptionally tough, clear, transparent, soft and pliable over a wide range of temperatures. Its moisture vapor transmission rate is the lowest among commercially available plastic films, and it has a very low rate of gas transmission.

Under normal conditions, it does not crack or become brittle with age; time actually improves its moisture control qualities. Saran film does not become loose because its slight shrinkage upon aging provides a taut wrapper. It is highly resistant to attack by nearly all chemical combinations, including acids, alkalies, organic solvents and salt solutions.

Why SARAN FILM keeps moisture in it

Whether you want moisture kept in or kept out, sa... rior job because it has the lowest rate of moisture va... of any commercially available plastic film. This ... tomers and bigger profits . . . because product ... moisture and tempting flavor when protected by ...

What type of processing is possible wi...

Saran film can be used on standard stuffing eq... bag-making machines. The saran film package ... tronic sealers or continuous belt type heat sealers. Th... retains all the properties of saran film because it is a comp... Also your brand name can be successfully printed on ...

Saran

the ideal packaging film for better protection!

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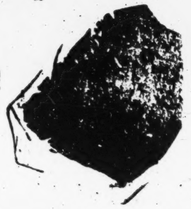
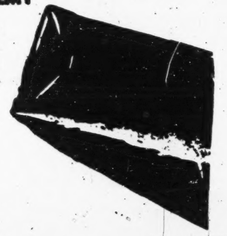
Why SARAN FILM keeps moisture in its place—In or Out!

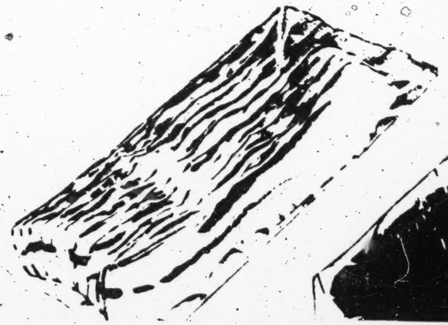
Whether you want moisture kept in or kept out, saran film does a superior job because it has the lowest rate of moisture vapor transmission of any commercially available plastic film. This means satisfied customers and bigger profits . . . because products retain their natural moisture and tempting flavor when protected by saran film.

What type of processing is possible with SARAN FILM?

Saran film can be used on standard stuffing equipment or automatic bag-making machines. The saran film package can be sealed by electronic sealers or continuous belt type heat sealers. This type of seal retains all the properties of saran film because it is a complete heat-weld. Also your brand name can be successfully printed on saran film.







Here's how you increase merchandising opportunities with sparkling *Saran film*

Self-service selling has greatly increased the need for packaging that not only sells on sight but offers effective protection as well. Saran film meets both these needs exceptionally well. Its glistening transparency and extreme toughness show off your product to best advantage and provide it with complete protection during handling and shipping. These outstanding features make this modern packaging material a merchandising standout . . . PLAN TO USE SARAN FILM NOW!

WHO SUPPLIES SARAN FILM?

Saran film is available as seamless tubes, casings, bags and printed film from converters. Standard or slit rolls are available from The Dow Chemical Company. A call to any Dow sales office will bring you the prompt assistance of our plastics representative in solving your packaging problem.

Plastics Division • Packaging Section • THE DOW CHEMICAL COMPANY • MIDLAND, MICHIGAN

DOW

[redacted]

[redacted]	[redacted]
CHICAGO 6, Illinois	Field Building
CLEVELAND 13, Ohio	Terminal Tower
DETROIT 2, Michigan	Fisher Building
HOUSTON 2, Texas	Gulfgate Building
LOS ANGELES 14, California	624 South Spring Street
NEW YORK 20, New York	30 Rockefeller Plaza
PHILADELPHIA 2, Pennsylvania	1429 South Penn Square
SAINT LOUIS 5, Missouri	3615 Olive Street
SAN FRANCISCO 4, California	310 Sansome Street
SEATTLE 1, Washington	Textile Tower
WASHINGTON 5, D. C.	Shoreham Building

[redacted]

4686 521

Baked Weekly

5/23/49

Defendant's Exhibit No. 286

Garment stays fresh — displays itself. Consumer gets re-usable container as a Milprint printed Fitafilm pouch.

Milprint lithographed, die-cut sleeve makes Old Monastery Wine a stand-out on the shelf — suggests itself as a gift.

Milprint's extra touch... gets extra sales

For you that "extra touch" might be a bit of elegance to add richness to your package and make it stand out against a shelf full of competitors.

Or, the right "extra touch" could lift your product into the year-round gift class and move a lot of retail stores faster.

Perhaps the "extra touch" for you should be a multiple unit

★

Barrington Hall Soluble Coffee, Edgeworth Tobacco and Alka Seltzer are now packed in heat-sealed Alcoa Aluminum Foil for protection, convenience and economy.

★

3 THINGS WORTH KNOWING ABOUT MOISTURE PROTECTION

MOISTURE PENETRATION TESTS* made with various wrapping materials point up these outstanding facts which are of interest to any packer whose products must be protected against gain or loss of moisture:

1. You get *good* protection with moisture-resistant cellulosic wrappers, if heat-sealed at the seam and laps.

2. You get *better* protection with moisture-resistant cellulosic wrappers, heat-sealed, *plus* Alcoa Aluminum Foil, not sealed.

3. You get *greatest* protection with Alcoa Aluminum Foil alone, if heat-sealed at the seam and laps.

Heat-sealed Alcoa Aluminum Foil packages are a development warranting close study by all manufacturers who must safeguard their product from moisture change. Such packages are perfect for many hygroscopic products; also, for those whose natural moisture content must not diminish before reaching the user.

Heat-sealed foil packages may take the form of bags, envelopes or folded wrappers. Forming, filling, and sealing them is a rapid, economical operation on fully automatic machines.

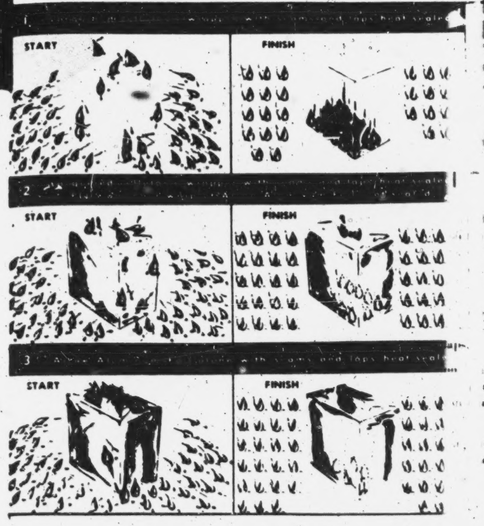
Investigate this new type of moisture-proof, light-proof, air-tight package. It may well be the answer to your own problem of preserving freshness. Address your questions to ALUMINUM COMPANY OF AMERICA, 2129 Gulf Building, Pittsburgh, Penna.

✲ Results of Moisture Penetration Tests on Commonly Used Wrapping Materials

These tests were conducted by the Aluminum Research Laboratories. Actual packages were used. To those who desire it a more detailed report is available upon request.

The percentage figures show relative permeability, not actual amounts of moisture passing through the wrappers. The amounts which actually permeate the package are dependent on time and on the difference in humidity inside and outside.

All the wraps involved were standard materials in common use. The Alcoa Aluminum Foil was .0035-inch thick. Heavier gauge foil, .0007-inch and thicker, has an extremely low permeability and is recommended for most heat-sealing applications.



Compared with a wrapper offering negligible protection, 100% permeability assumed, this wrapper showed a moisture permeability of

43%

On the same basis of comparison, this combination wrapper consisting of foil and cellulosic sheet showed a moisture permeability of

22%

Heat sealed Alcoa Aluminum Foil alone, on exactly the same basis of comparison, showed a moisture permeability of but

10%

ALCOA ALUMINUM

Modern Packaging

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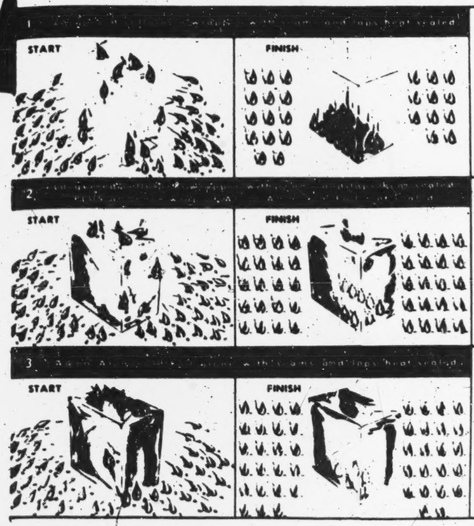

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ALCOA ALUMINUM FOIL

Modern Packaging

Nov. 1940

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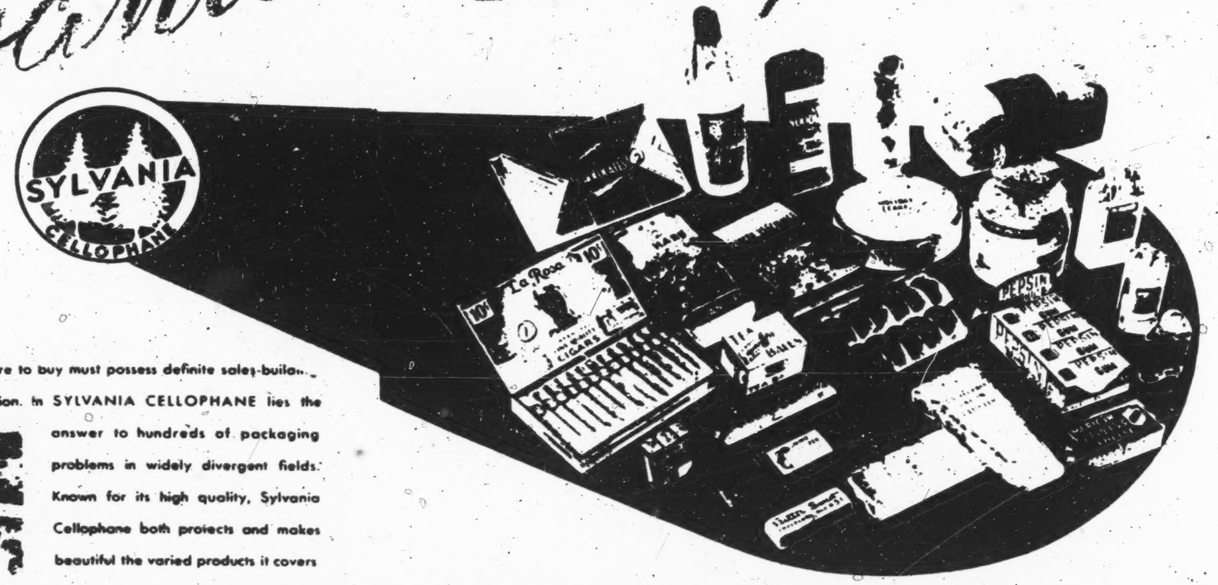
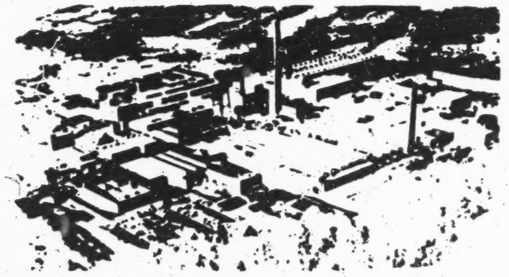
Defendant's Exhibit No. 287

Sylvania Cellophane

SYLVANIA CELLOPHANE



Packages designed to create a desire to buy must possess definite sales advantages . . . and quality protection. In SYLVANIA CELLOPHANE lies the answer to hundreds of packaging problems in widely divergent fields. Known for its high quality, Sylvania Cellophane both protects and makes beautiful the varied products it covers



◊Sylvania's Fredericksburg, Va., Factory The World's Largest Individual Cellophane Plant

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◊Sylvania's Fredericksburg, Va., Factory The World's Largest Individual Cellophane Plant

SYLVANIA INDUSTRIAL CORPORAT[redacted]

Executive and Sales Office: 122 East 42nd Street, New Yo[redacted]

USTRIAL CORPORATION . . . . Makers of

ce: 122 East 42nd Street, New York City

[redacted]

Sylvania Cellophane

SYLVANIA INDUSTRIAL CORPORATION

Executive and Sales Offices: 122 E. 42nd Street, New York Works: Fredericksburg, Va.

Branches or Representatives
ATLANTA, GA., 70 Marietta Street
BOSTON, MASS., 201 Devonshire St.

Pacific Coast
Blake, Moffitt & Towne
Offices & Warehouses in Principal Cities

Modern Packaging

aging

Jan. 1941

Defendant's Exhibit No. 288

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Milprint's extra touch... gets extra sales

Milprint lithographed, die-cut sleeve makes Old Monastery Wine a stand-out on the shelf—suggests itself as a gift.

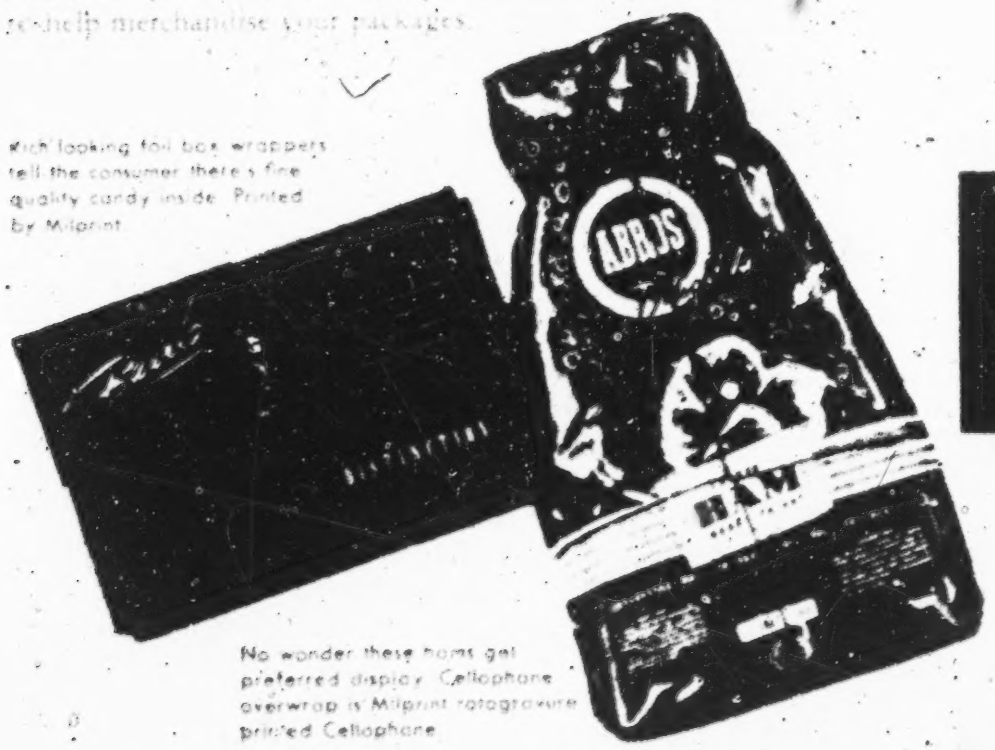
For you that "extra touch" might be a bit of elegance to add richness to your package and make it stand out against a shelf full of competitors.

Or the right "extra touch" could lift your product into the year-round gift class and move it out of retail stores faster.

Perhaps the "extra touch" for you should be a multiple unit package to provide a new merchandising opportunity. It could also effectively call attention to a special promotional offer without requiring a change in your basic package.

Whatever your package changes are Milprint can suggest that "extra touch" to get extra sales for you. Why not talk it over with your local Milprint man today?

Thorough! That's Milprint's follow-through service. We'll create and produce all your printed promotional material to help merchandise your packages.



Rich looking foil box wrappers tell the consumer there's fine quality candy inside. Printed by Milprint.

No wonder these hams get preferred display. Cellophane overwrap is Milprint rotogravure printed Cellophane.

Milprint INC.
PACKAGING MATERIALS
LITHOGRAPHY & PRINTING

General Offices, Milwaukee, Wis.
Sales Offices in All Principal Cities

Printed Cellophane, Pliofilm, Acetate, Foil, Glassine, Plastic Films, Lithographed Displays, Printed Promotional Material

This Insert Printed by Milprint, Inc.

Modern Packaging

March 1950

Defendant's Exhibit No. 289

Packaging Materials

In the belief that the fast-growing practice of supplying foods in packaged form is of general interest to our readers, the editors offer herewith authoritative text contributions on the principal materials that are used for that purpose

What Cellophane Offers Foodstuffs

By L. B. STEELE
duPont Cellophane Company, Inc., New York City

ALTHOUGH transparent Cellophane has come into popularity as a packaging medium for a wide variety of products during the past five years, its basic characteristics fit it primarily as a wrapping material for foodstuffs. In fact, it was first introduced into this country from France as a wrap for candy.

While the qualities of the finished product are of outstanding interest to the food packer, the manufacture of Cellophane is interesting enough to merit a brief outline. The basic ingredient of the material is high-grade spruce pulp. This wood pulp is dissolved in a caustic solution, and carbon bisulphide added to disintegrate completely the pulpy fibers. The result of these and other important chemical operations is a viscous, amber-colored liquid.

This viscose is now forced under pressure through a narrow slit of metal into an acid bath which instantly solidifies it into a thin sheet. After a series of purifying and bleaching operations, the product is dried, coming off the final rolls in the well-known transparent, glistening form.

With the growth of the domestic Cellophane industry, practically all leading firms in the candy industry adopted the new material on their higher-priced box line, not only for the sake of sales appeal but because of the elimination of shopwear of the light, easily soiled boxes.

The use of Cellophane as a candy-box wrap suggested it as a direct wrap for bar goods. It was given a trial. Since "impulse sale" is such a factor in candy selling, and since the appeal of the candy itself is its own best salesman, the transparent type of wrap proved decidedly popular, and millions of bars are now sold in Cellophane.

It was only natural that other food producers should seek to capitalize on the successful experience of the candy trade, and in a short time a number of leading bakers began packaging their cookie units in this transparent wrap. The Cellophane-wrapped cookies became counter-display items and the attractive packaging served to draw the attention of customers and speed up impulse sales.

The dried-fruit industry next turned to Cellophane to provide a proper package for dates and figs. These fruits need to be openly displayed to permit their appetizing appearance to act as a sales aid, but at the same time their inherent stickiness must be protected from dust and dirt. Other dried fruits—prunes, apricots, raisins—also are being successfully packaged in Cellophane in substantial volume.

Prunes packed in Cellophane

Packers of berries, apples and citrus fruits have likewise been investigating the possibilities this transparent type of wrapper offers them as a means of increasing the sales appeal and display value of the choice section of their crop. The results seem distinctly encouraging.

Cellophane has also proved to be of service to the meat packers in the marketing of the unit-package line of products. Starting with sliced bacon, a few progressive packers pioneered the Cellophane-wrapped unit and found it very effective in increasing sales. The visible package acted as a suggestion to housewives doing their marketing, and they added bacon to their menus. As the trend toward units and packaged meats continued, the use of Cellophane spread from bacon to sausage, frankfurters, dried beef, picnic hams, shoulders and other items, including smoked meats. It provided the answer to requirements for an attractive, convenient, sanitary, identified package that could be displayed even on open stands.

Experience has indicated that meat buyers are quite evidently "eye" buyers and consequently the amount of meat being packaged in this visible type of package continues to increase.

From meat to fish is only a short step, and here too Cellophane plays a part in the packaging methods in vogue. Making its entrée on the rather commonplace looking smoked herring, it made possible a package that permitted trade mark identification and, being grease- and odor-proof, made display possible without danger of affecting other adjacent foodstuffs. Because of these advantages fish packers later adopted Cellophane for other types of fish.

Turning to macaroni and noodles, we find Cellophane providing an attractive package that wins counter display and suggests "noodles" to the customers in such an inviting manner that a substantial number of new noodle users are developed, with consequent increase in sales. The acute weather conditions in northern parts of the country created a few breakage troubles in the beginning, but this was soon remedied by use of a heavier grade of Cellophane.

In this rapid spread of usage on foodstuffs certain foods were found to require some unusual moisture protection not possessed by the regular grade of Cellophane. This included such items as cakes, nuts and some candies. After extensive experiments a special moisture-proof Cellophane was developed that has since demonstrated its value as a wrap for products that have a tendency to lose or take up moisture. Perhaps the outstanding use of this special grade is on cakes, where visi-

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bility is so desirable in emphasizing the cake's appetite appeal, and exposure is so certain to cause drying out. Moisture-proof Cellophane has not only proved a means of increasing cake sales but has materially reduced "stale returns."

The cheese and butter makers also see opportunity for using moisture-proof Cellophane in certain types of their products and are conducting experiments to indicate in just what manner it will serve to best advantage. The honey packers have found it helpful in showing the combs while protecting the sticky honey from dust and germs.

In the tea and coffee field Cellophane has also come into use. As a wrap for tea balls it has furnished an attractive display package. On coffee it is used as a box wrap that gives attractiveness and moisture protection. As a direct wrap for the coffee itself initial experiments proved unfeasible, but the new double-wrap type of package seems to offer possibilities.

The recent trend toward quick-frozen foodstuffs that is occupying such a prominent place in food merchandising discussions at this time also has utilized Cellophane as a packaging material. On the frozen fish fillets its moisture-protective properties aided in keeping the fish in good condition and retarding the frosting. The new fresh meat cuts shown at the Meat Packers' Convention in Chicago also indicated its value as a means of attractive display. It has likewise been used on "frosted" strawberry units on the Pacific Coast.

Because these frozen foods need visibility to show their appetizing appearance to the best advantage and thus induce housewives to try them, Cellophane seems destined to play an important part in this development.

So we see that Cellophane, in serving this wide variety of food products, offers unusual advantages that prove of great assistance in stimulating sales in this era when "see what you buy" is the watchword of so many foodstuff buyers.

Increased Use of Visking

To the Editor of "Food Industries":

I have been giving some thought to your request for up-to-the-minute developments in the use of cellulose film tubing in the food industries.

There are several things being worked on, but most of them have not reached a stage sufficiently far advanced to warrant any publicity. You will readily understand that in many cases where a manufacturer is contemplating the use of our product, and is working with us on it, no publicity is desired until the problem reaches the point where it becomes practicable and consequently the user can make an announcement of something novel.

However, two recent developments have been placed before the public, a description of which follows:

A new development in the application of seamless cellulose tubing came recently in its use as a wrapper for candy. The Chase Candy Company, of St. Joseph, Mo., is responsible for a clever example of this application. The cellulose tubes are filled with a warm chocolate confection and, before the mass cools, "links" are made by twisting at short intervals and tying a cord around the twist. These "Fidos," as the divisions are called, are finding a wide welcome in the Middle West.

Another recent development consists of large cellulose casings for bologna, salami, and the like, on which the trademark of the packer is printed in bright colors. The printing is done by a specially developed process in order that the stuffed product may be passed through the smoke house and afterward cooked in water, without having the printing come off. When this new type of "distinctive" casing made its appearance it immediately became very popular, thousands of them now being used all over the country.

The demands upon us in recent months by the packing industries have kept us extremely busy in expanding our plant, and we are just now beginning to think again along the lines of other uses.

I hope that the information inclosed will be of some use to you and I am sorry that I am not able to give you considerably more at this time.

Thanking you for your request, I am

Yours very truly,

W. F. Henderson,
Chief Chemist,
Chicago, Ill. The Visking Corporation.

Glassine and Wax Papers

By H. A. Stone
Warren Manufacturing Company
New York City

As there are several types of wrapping paper which are at times all called "wax paper," it is advisable to make a few definitions to show exactly what is meant by such terms as glassine, wet wax and dry wax.

Glassine paper is not wax paper at all. There is no wax about it. In the process of manufacture, new spruce pulp is beaten much longer than if it were to be used for ordinary paper, and the fibers become hydrated. In other words, water has been mechanically forced into the shortened cellulose fibers, making their texture gelatinous. This hydrated pulp when made into paper is known as *greaseproof*, and it is just that. As oil and water don't mix, obviously oil or grease cannot penetrate paper already containing water. To make greaseproof into glassine, the paper is polished in supercalenders, sealing in the water and giving the high transparency of real glassine paper.

Wax paper is made by applying melted wax to paper. The wax should be odorless, colorless and of high melting point. The advantages of purity and freedom from odor are apparent if tainted food is to be avoided. In warm weather or a heated storage space a low melting point wax is liable to melt off and injure the food in contact with the wrapper. From the angle of the baker or packer also a high melting point is desirable, as it prevents stored paper from sticking together and becoming unusable.

Wet wax means that most of the wax is left on the surface of the paper. It is the commonest type and the most effective. However, it is not adaptable to all purposes.

Dry wax paper has the wax driven into the sheet by pressing between rollers. The paper does not hold as much wax as when wet waxed, but in hot climates and in certain special instances the dry wax paper is more satisfactory.

Self-sealing means that enough wax is on the surface of the paper to seal the wrapper when heat and slight pressure are applied.

Waxed glassine combines the good features of glassine and wax paper. It is wet waxed, as the wax cannot penetrate the polished surface or saturate the hydrated fibers. The paper being already of high transparency, when waxed it is the most transparent wrapping paper obtainable. Furthermore, when waxed the greaseproof and moisture-proof properties of glassine are augmented to an extent that produces an absolutely waterproof wrapping paper.

Paper for waxing should, in general, be full bleached and strong. A paper free from pin-holes and imperfections also is needed, for wax cannot be expected to fill more than the normal interstices between the fibers. Outside of the familiar amber used by certain large bakeries, colored papers are not in demand.

Printing is done before waxing. Four-color work is practical and the possibilities of good art work and attractive labels have not been developed very far.

While most tests of the qualities of wax papers have been made by the manufacturers, they have been conducted fairly and intelligently, and some of the results obtained are shown in the table below.

The table records the data derived

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from a test to determine the moisture resistance of waxed glassine and wax paper used as a wrapping for corn flakes. Three packages were used: the first, simply the ordinary paper carton; the second, the paper carton with an inner wrapper of 33-pound waxed sulphite paper; and the third, the paper carton with an inner wrapper of 29-pound waxed glassine. The corn flakes were dried in an oven at 212° F. for twenty minutes. All weights are in grams and include carton plus cereal. Per cents of weight changes are based on original weights. The accompanying graph illustrates the percentage of variation in moisture absorption in the test packages.

The results of these tests on cornflakes are typical of many others to determine the effectiveness of waxed glassine, and invariably this type of wrapper displays its superiority as a moisture resistant in comparison with other types of wrapper, in about the same ratio. The results are also consistent with those obtained by consumers of waxed glassine who are already using this wrapper in the packaging of their products.

A recent test of loss of water from marshmallows in different wrappings showed equally striking results. In this test, cartons of marshmallows were wrapped as follows: No. 1 carton—unwrapped; No. 2 carton—wrapped in one sheet of 30-pound self-sealing wax paper; No. 3 carton—wrapped in two sheets of 30-pound self-sealing wax paper with seams on opposite sides.

In a week's time the losses in weight caused by drying out were 7 per cent in No. 1, about 1¼ per cent in No. 2, and about 0.5 per cent in No. 3. During the ensuing seven weeks of the test, package No. 1 lost weight fairly constantly up to about 10 per cent at the eighth week. Apparently most of the drying out in this unwrapped carton occurred immediately and further drying could not proceed rapidly, as there was relatively so little moisture left in the marshmallows.

Package No. 2, with the single wrapper, and package No. 3 with the double wrapper continued to lose weight at approximately their initial rates, showing respectively 7 per cent and 3 per cent losses at the end of the eighth week.

This test makes it apparent that while one good waxed wrapper is a splendid protection, a double wrapper with the seal on opposite sides will keep foods fresh twice as long.

A wax wrapper for citrus fruits has given ample proof of its value. Oranges and lemons when newly packed bulge the top and sides of the crates. If the fruit is wrapped in ordinary tissue, most of the bulge is gone inside a week or two. The loss is in juice, flavor and the aromatic oils of the skin. Experiments in packing and shipping conclusively demonstrated that if a wrapper of self sealing wax paper of 25-pound basis or heavier were used, the loss in juice and flavor was negligible, even over a ten-week storage period in the warm climate in which the fruit was grown.

The chief objection to the use of wax-paper wrappers for citrus fruits was the fact that girls in the packing houses could not wrap the fruit with them as quickly as with the light tissue. Also, the additional bulk of the paper slightly decreased the number of fruit per crate. These objections are gradually being met and overcome.

A trial of coating the fruit with wax was made, but proved impractical. While there was no loss of water, the sealing of the pores in the skins stopped normal respiration and fermentation spoiled the fruit.

A test of several types of packing for print butter showed superior quality in butter packed in vegetable parchment, wrapped in wax paper and inclosed in a waxed carton. The butter was kept in cold storage 155 days, demonstrating that wax-paper wrappers can be profitably used to supplement cold-storage preservation.

The heat-insulating properties of a waxed glassine wrapper were clearly demonstrated in a test made in the laboratory of a Long Island City ice cream manufacturer. Two cartons of brick ice cream were taken from the storage room. One was wrapped in 29-pound glassine and sealed with a hot iron, while the other carton was not wrapped. After recooling to —12° F., the two bricks were let stand for 45 minutes in a temperature of 80° F. Upon inspection, the unwrapped carton was found to contain soft, mushy ice cream, while the wrapped carton contained a firm and solid brick with only traces of melting at the corners.

Wax paper has not been found adaptable for use next to chocolates, but plain glassine serves admirably for bonbon cups and the like. The smooth surface prevents sticking and is relatively moisture-proof and quite greaseproof.

Another wrapping job not lending itself to the use of wax paper is the packing of seeded raisins. They are packed at about 200° F., a temperature which would melt the wax. Here again glassine is suitable.

Glassine has many uses due to its excellent transparency, which is greater than any wax paper excepting waxed glassine. Everyone is familiar with it on packages of cigarettes and candy. One of its advantages is the fact that it can be glued, as wax paper cannot, giving it a very wide use in bags and articles requiring a strong seam. Glassine, being greaseproof, is of especial value where the product wrapped is oily. Buttered popcorn, salted nuts and many foods of similar nature are effectively packaged in clear glassine bags. Since aroma usually is contained in an essential oil, flavor also is retained.

Plain glassine may be embossed in attractive patterns for increased selling appeal. There are degrees of transparency in glassine, a full bleached, highly transparent sheet, of course, making the most desirable package.

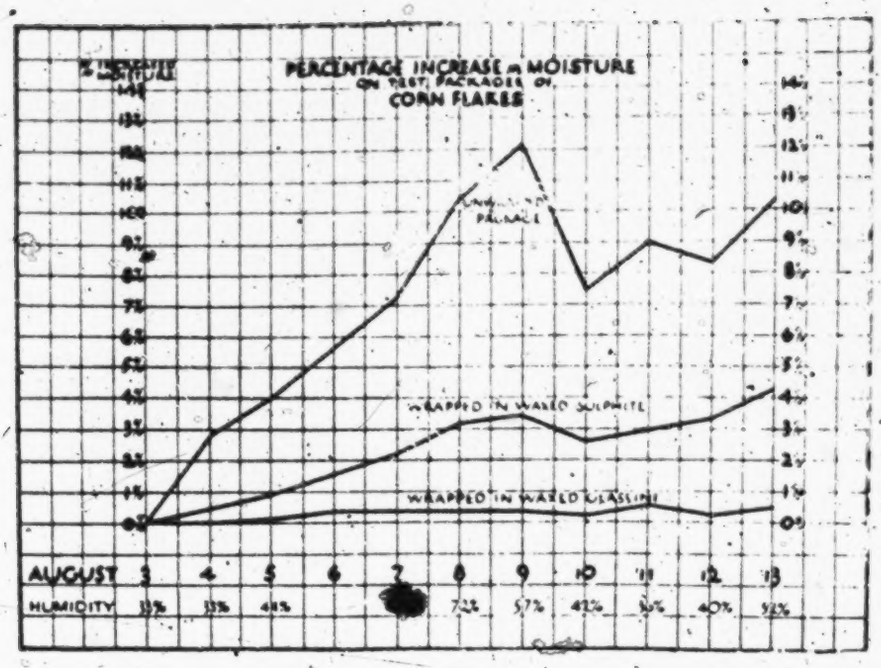
As the primary object of packaging is to insure the arrival of a food product in the hands of the consumer in its original fresh condition, the wrapper should be waterproof, greaseproof and dustproof. Transparency as an aid to display also is an undoubted selling factor. Consideration of all these qualities has led many bakers to the use of waxed glassine. It is sparklingly transparent. The glassine, being greaseproof, keeps the shortening and flavors in, also protecting the contents from outside odors possibly encountered in delivery or in stores. Ordinary wax paper is practically waterproof, but waxed glassine is absolutely so. (A possible explanation of this difference lies in the probability that while the wax fills the interstices between fibers it does not seal the ends of the long unhydrated fibers. These then by capillary action allow the passage of water through the sheet. Short hydrated fibers in super-calendered glassine are completely covered by the wax and the sheet is then perfectly impervious to water, even after continued soaking.)

Self-sealing waxed glassine wrappers defer the time when cakes become stale from the second day to the seventh or eighth. Naturally this saving in stale cake means that practically all cake delivered is sold, far more than compensating for the slight added cost of the wrapper. The self-sealing feature of wax paper and waxed glassine means a hermetically sealed package, something not possible with other materials depending on a fold or spot of glue to close the wrapper.

The use of glassine, wax paper and waxed glassine in the home is increasing very slowly when one considers its myriad uses. That it may be used for wrapping lunches everyone knows.

Tests of Waxed Paper

Date	Weight	Package Unwrapped Per Cent Change	Package Wrapped in 33-lb. Waxed Sulphite Weight	Per Cent Change	Package Wrapped in 29-lb. Waxed Glassine Weight	Per Cent Change	Relative Humidity Per Cent
Aug. 3	296.5	....	306.0	....	314.7	....	33
4	304.7	2.76	307.5	.49	314.7	.00	33
5	308.5	4.05	308.9	.95	314.9	.06	44
7	318.6	7.39	312.8	2.22	315.7	.32	68
8	327.7	10.52	315.7	3.17	315.7	.32	72
9	332.4	12.11	316.3	3.37	315.7	.32	57
10	316.5	7.42	314.1	2.65	315.4	.22	42
11	321.4	8.97	315.2	3.01	316.1	.45	36
12	321.2	8.35	316.0	3.27	315.7	.32	40
15	327.0	10.27	319.0*	4.25	316.2	.48	52



That a sheet of waxed glassine wrapped around a cut melon, celery, cheese, butter or used as dish and jar covers, will keep the refrigerator free from odors and preserve food longer is not so well known and less generally practiced. Other uses in the home wou'' include the rewrapping of practically all products delivered in a waxed wrapper which is torn or destroyed in opening the package. A self-sealing bread wrapper cannot be put together again to properly protect the bread, nor can the lining of a package of breakfast cereal. Wax paper or waxed glassine bags would be useful household articles in this connection, especially for sliced bread.

Paper Cups

By L. V. KEEFE
Lily-Tulip Cup Corporation, New York City

WHEN the distribution of food products in packages began to meet with the approval of manufacturers, the makers of packaging materials immediately began to reach out for the most adaptable material for the construction of containers. They were quick to recognize that any such material must be capable of direct imprinting, or so constructed as to carry a label, to the end that the maximum display and advertising value might be provided. In the beginning, as is the case today, practically all containers were made of glass, metal, wood, or paper. Each had its particular appeal and was taken up in one form or another by the distributors of various products. We shall deal here principally with the evolution of the paper container and the progressive measures adopted by those engaged in the paper industry to keep pace with the advancement of merchandising methods and perfect new types suitable for an ever-widening range of packaged food items.

The early cartons were either square or rectangular and made from cardboard. The printing was crude and the construction of these cartons made them suitable for a very limited number of dry commodities — cereals, powders and the like.

These paper cartons had advantages which appealed to the manufacturer, and the paper industry was quick to realize the advantage it held in the package field. Paper packages were light, thus reducing the cost of shipping and handling; they could be more easily and attractively imprinted, and they eliminated the costs incident to the handling of individual labels. The space required for most of them was far less than that generally necessary to carry a warehouse stock of packages of other materials. There was less waste through breakage and jamming and, far more important still, these packages could be purchased at a considerable saving. Knowing all these things, progressive paper mills began immediate experiments to eliminate the weaknesses which prevented a wider use of paper packages.

As a result of those experiments, the number of products packed in paper cartons has increased with leaps and bounds, and the paper industry is still working to extend the use of its products.

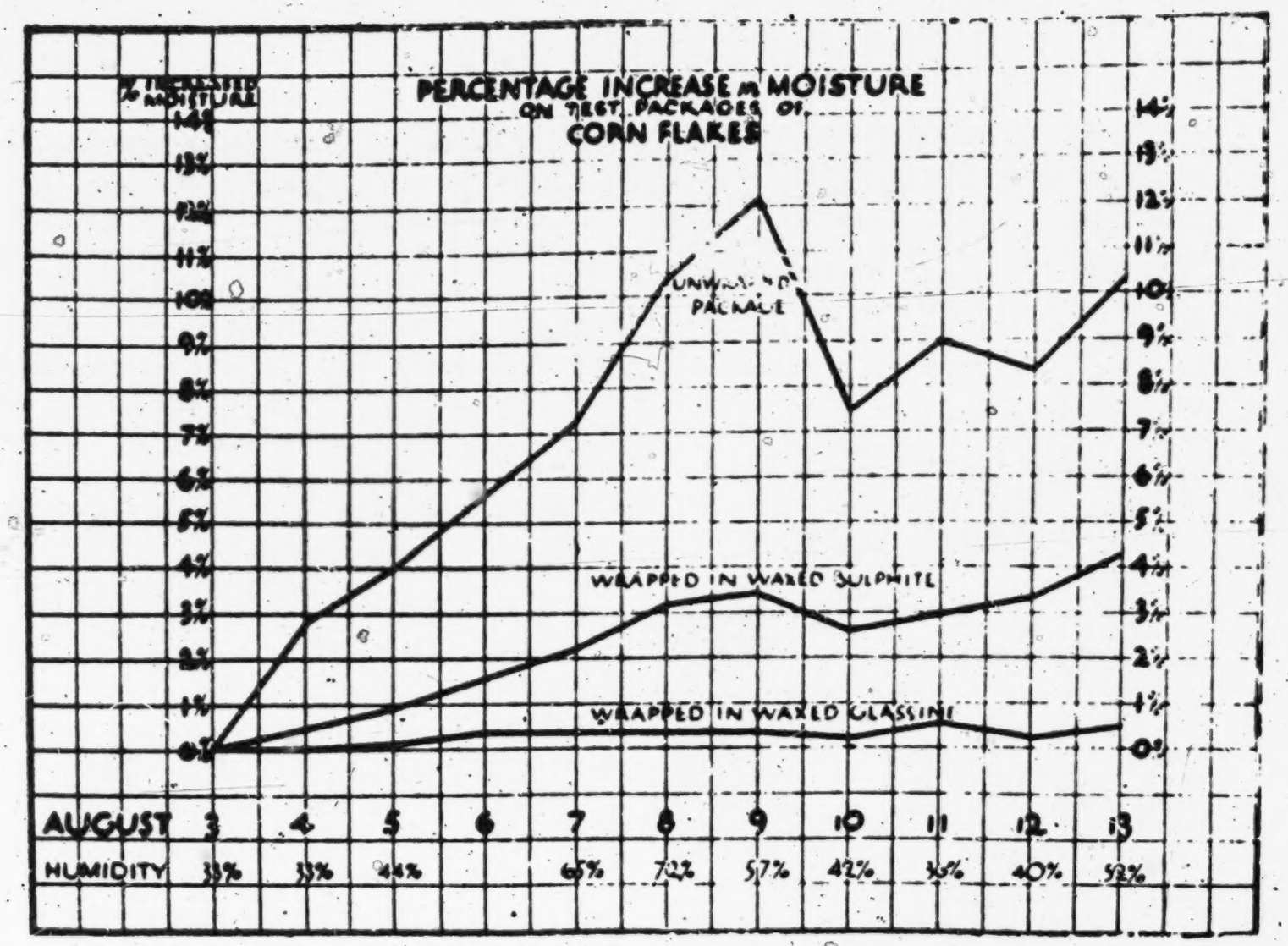
One of the very important developments in the advancement of paper packages was the perfection of one which would be liquid-tight. The first acceptable container of this type was a cylindrical can. This was originally designed to meet the demand of brewers and saloon keepers who were forced by state and municipal legislation to provide a send-out container for beer that eliminated the time-honored custom of carrying home this almost-forgotten beverage in a tin bucket.

As a natural development, a need for attractive paper packages, with greater sales appeal, wider variety of shapes and sizes, and so constructed as to render them suitable for distributing moist, semi-moist, and dry food products was soon felt. People looked askance at this development because of the apparently fragile nature of paper, and the myth of its so-called "taste." To meet this pressing demand "Nestrite" containers were born.

The first thing which had to be done in the development of this package was to eliminate any paper "taste" or "odor" and remove the ancient prejudice which had so far prevented a wider use of paper containers. Extensive experiments showed that the most acceptable paper stock was pure bleached sulphite, the manufacture of which requires a simple but thorough process which effectively destroys all foreign substances such as pitch, resin and tar, and produces an absolutely tasteless sheet.

After a suitable paper stock had been decided upon and samples prepared for test it was found that the use of animal glue was neither practical nor desirable. The body of the container is a series of laminated layers so closely adhering as to give the appearance of a solid wall. The proper handling of the laminating procedure was dependent upon the use of a suitable adhesive. The subjection of animal glue to heat and moisture produced an objectionable odor and taste, and it was necessary, therefore, to find a substitute which would have all the advantages of glue without any of its disadvantages. As a result of further experiments, an adhesive composed of vegetable compounds, tasteless and odorless, was perfected. That it is proving thoroughly acceptable is evidenced by the great number of these containers now used by manufacturers in many branches of the food industry.

In the beginning, this type of container was placed on the market without the application of any other processing of the paper. It was thoroughly satisfactory for the distribution of ice cream, as a send-out package for hot and cold drinks at the soda fountain, and the packaging of some dry food products. But it was apparent that some treating process was necessary to widen the range of products which could be successfully packed. Tests showed that pure



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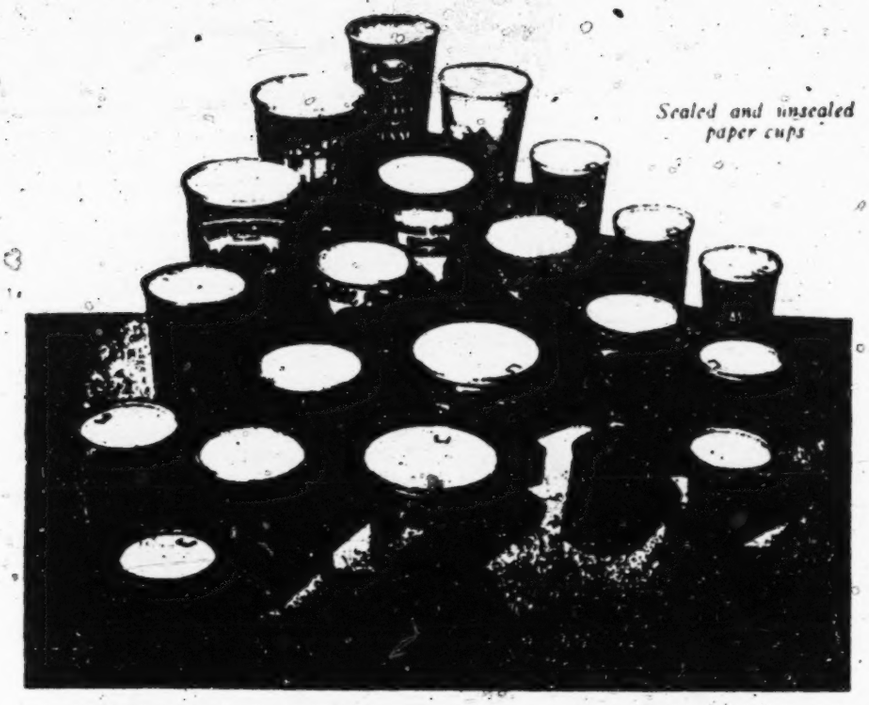


Sealed and unsealed paper cups

paraffin, tasteless and odorless, could be applied without in any way injuring the original product or destroying its appearance or structure. The waxed container then was placed on the market, and it is this package which has appealed so strongly to food manufacturers. Incidentally, paraffin has played a very important part in the development of paper packages of all shapes, sizes and material. Many cartons are treated directly while others are wrapped in paraffined paper, both to increase the attractiveness of the package and to protect the contents for a longer period.

The waxing of the container adds greater strength and considerably increases its attractiveness by giving it a brilliant finish. Another advantage of this type package is that it can be sealed with a machine which is furnished at a nominal cost and turns out a rolled "seal" which practically excludes air.

There has been a steady increase in the number of products packed in this container and today these include such items as coffee, lard, sausage, tea, cottage cheese, ice cream, frozen fruit, gelatine, jelly, sandwich spread, mayonnaise, mincemeat, chili, oysters, honey, candy, peanuts, popcorn, and a variety of others. Just recently a progressive organization in the East adopted it for the distribution of a fertilized dirt to be used in transplanting bulbs, ferns and small plants.

Paper containers are not suited to packaging every product as yet. For instance, they have not invaded the field occupied by fatty, oily, or greasy food products, or those having a high acid content, or those that are liable to fermentation subsequent to packaging. With research work constantly being done in experimental laboratories and the ability to make paper from so many different types of raw material, it is believed that a steadily increasing number of products will be marketed in this type of package.

Genuine Vegetable Parchment

By G. F. Des Autels

Research Department,
Kalamazoo Vegetable Parchment Company

IN RECENT YEARS it has almost come to be expected that any discussion of modern methods of packaging foodstuffs shall begin by recalling the open cracker barrel that stood near the stove, the churning of butter in the home, and a host of other things that have followed the horse into near oblivion. Nevertheless, no one can question the fact that vast changes have occurred, and that with them has come the need for packaging materials with new and special characteristics.

Many foodstuffs requiring packaging materials possessing such special characteristics are now satisfactorily wrapped in vegetable parchment, because of one or another of the unique qualities of this material. Among such foodstuffs, butter is an outstanding example. When every home was its own creamery, there was no butter-packaging problem. Today, such packaging is of tremendous importance.

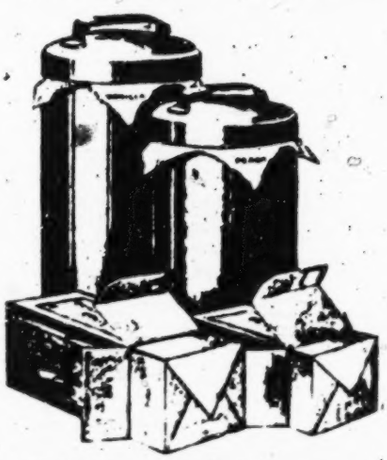
A sensitive product such as butter requires a pure wrapper, free from all taste, odor, coloring, or other foreign matter. It must retain its strength when wet by the moisture in the butter, and be impermeable by the butter fat. The ideal wrapper should also be fairly airproof.

Genuine vegetable parchment meets all of these requirements. It is stronger wet than dry; it is fatproof and oilproof, wet or dry; it contains no sizing, loading, artificial coloring, or other foreign matter, and it has no taste or odor. While not particularly airproof when dry, it gains in this respect when wet.

Parchment is used in every type of butter package—for prints, either with or without cartons; for various size rolls; in the shape of a circle on the top of butter in jars; for lining hermetically sealed tins for long keeping, and for the inside of butter tubs and boxes.

The same qualities which make parchment suitable for butter fit it for oleomargarin and lard. In a recent development in the latter field, warm liquid lard is poured into cartons lined with a special grade of parchment. This grade will stand folding and creasing without breaking or losing its greaseproof quality.

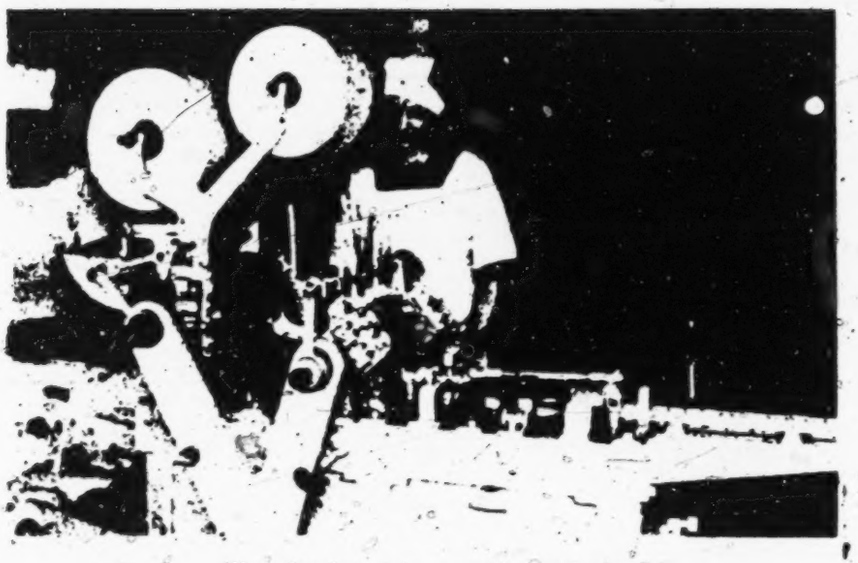
In the field of meats, too, the resistance of parchment to grease and moisture, and the desirability of a white wrapper which may be printed in striking colors, makes parchment valuable. In packaging individual cuts of frozen meat, waxed parchment has been found to give excellent results. The waxing, by making the package airproof, adds to its insulating value. When the meat



Vegetable parchment in ice cream packaging

is allowed to thaw, the resistance to moisture proves valuable. Fish fillets, when wrapped in parchment, also make use of its high wet strength.

When we come to liquid products, we find that this wrapping material has further uses. Gaskets of parchment are used to seal milk-can tops; in fact, they are required by law in certain states. In



Wrapping butter in vegetable parchment

addition to sealing the cans against the entrance of dirt, they offer protection against metallic contamination due to worn or rusty can-top collars.

The use of vegetable parchment on fresh leafy vegetables such as celery and lettuce, both to wrap individual bunches and to line shipping cases, has proved beneficial. A prominent Eastern market gardener reports that he has realized an average of 25 cents per box more for head lettuce wrapped in parchment than it would otherwise have brought. Parchment is especially valuable when such products are to be packed in crates containing cracked ice—due again to its wet strength.

Tests have shown that in coffee packages lined with parchment, contamination of this highly sensitive product is prevented. A discovery that the "fluff" of tea does not stick to parchment has made it desirable for lining in cartons in which tea is to be packed.

A final use for vegetable parchment is as a liner for canned goods. Canned chicken, lobster, shrimp, fish flakes, and other sea foods may be so packed. For most of the sea foods which, together with some other products, are subject to sulphide blackening, a special grade of can-liner parchment has been developed which largely prevents any black discoloration.

No discussion of the uses of vegetable parchment in the packaging of foodstuffs would be at all complete without reference to printed parchment. A great deal of the parchment used in wrapping butter, meats and other products is now printed in a great variety of colors with inks that will not bleed, fade or discolor under any conditions, even, as in the case of butter wrappers, such severe tests as boiling in brine.

New Developments in Folding Boxes

By J. D. MALCOLMSON
Robert Gair Company
New York City

THE YEAR 1929 has witnessed what probably is the greatest single advance in the art of folding box design for food products of any one year. In addition, researches on the same subject have been instituted during this period, the results of which will continue this advance in knowledge at an accelerated rate during the coming months.

This comparatively sudden spurt is due partly to efforts on the part of box makers to get out of the ruts of competitive strife and partly to the demand by food manufacturers for economical boxes possessing specific properties which would have been characterized as impossible only a few months ago. In common with all American manufacture, the folding box industry is being called upon almost daily to produce these seeming impossibilities." It is not only giving satisfactory results but is doing so at exceedingly low cost levels.

Many of these surprising developments are still more or less closely guarded secrets, but without going into details, it is possible to touch upon enough of them to demonstrate the wide scope of the movement. The food industry has concentrated this demand along two main channels: first, the requirement for boxboards of unusual resistance to moisture, grease, heat transference, etc.; and, second, for new and novel designs of box construction which have forced the best minds in the box designing field to throw overboard their previous ideas of the limitations of their profession. Thus it has become almost an axiom that the usual type of seal-end box had to put up with a minute

Shipping carton for fruit

hole in each cover, between the flaps preventing it from being watertight. During this past year, however, boxes have been developed which not only are absolutely watertight in construction, but which are made of specially sized boxboard which will hold water almost indefinitely. In one such series of tests, for instance, the water in an open-top test box completely evaporated in fourteen days, without any penetration through the board. The same results occurred when tested with concentrated

Display cartons for apples

brine solutions and concentrated sugar solutions.

As may have been guessed from these paragraphs, many of these striking developments were made at the instigation of the quick freezing industry. This young giant of the food industry has not yet made himself known to the public at large, but box makers for months have been working at top speed to satisfy his endless and insistent demand for

containers—a demand that will not take "no" for an answer.

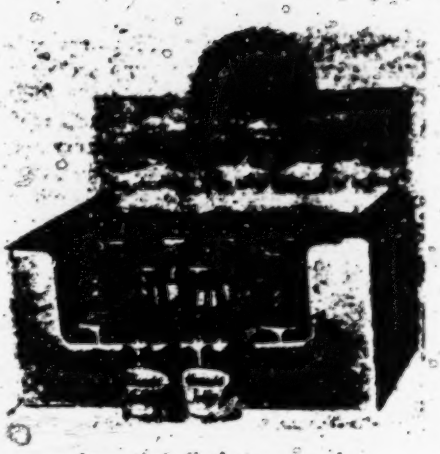
One of these paradoxical demands is for a board having a very high heat conductivity to speed up the quick freezing process as the package passes between the belts of the chilling machine. At the same time there is required an outer container of extra low heat conductivity to insulate the contents and maintain the low temperature. The solution of both these problems is in sight, especially by the use of corrugated board in the outer package. This material, because of its trapped cells of dead air, appear to be, for its cost, one of the most efficient insulators known. Curiously enough, this property was not thought of by its original inventors.

The rapidly increasing use of solidified carbon dioxide as a refrigerant has created an important field for paper boxes. Paper, or boxboard, is well known to be a first-class insulating medium, and this property can be greatly augmented by the design of the package and its interior parts. Already we are seeing ice cream put up in folding boxes containing a small piece of carbon dioxide ice, so arranged that the cream will keep hard for several hours without other refrigeration, and before long doubtless it will be common to see ice cream being delivered from grocery and chain stores right along with the regular order. Similarly, fresh frozen fish is being shipped hundreds of miles to interior points in folding boxes. During 1928 the production of packaged fresh and frozen fish increased 350 per cent over 1927, with the business still showing accelerated growth.

More recently, the meat packers have started the packaging of individual pork chops, steaks, lamb chops and other selected cuts. These are frozen by the sharp process and put up in attractive folding boxes which will assure the purchaser of uniform weight and quality, in place of the present uncertain results from the average butcher shop.

Some idea of the importance of the quick freezing development is given by the recent statement that one of these plants, not very large in size but having valuable patents, was purchased for $22,000,000 by one of the largest food companies. Work has already been started on the sharp freezing of over fifty food products, ranging all the way from fruit juices to berries and vegetables which will be marketed out of season. The importance of the proper folding box in such instances is paramount, both for proper maintenance of the product and for economy.

Another interesting patent now being exploited calls for the packaging of various food products in hermetically sealed folding boxes which are subsequently exhausted of air in a vacuum, and this air immediately replaced with an inert gas. It is claimed that as a result the contents will keep fresh and unchanged over long periods of time.



Attractive display carton for fruit juice bottles

The paper milk bottle is another recent development which has already been widely advertised. Its rapid adoption by some of the larger milk companies promises to show some surprising strides in the not distant future.

Among other unusual developments in the packaging of food products may be mentioned the incasing in folding boxes of such startling departures as ice cubes, sliced bread, etc. It is probably too early as yet to say just what is the future of such revolutionary ideas.

In the field of the more usual marketing of food products also the year 1929 has witnessed many important advances. Apples in folding boxes and corrugated containers have long since passed the experimental stage. Peaches, potatoes, berries and other fresh farm products are being so packed, often without refrigeration.

A more prosaic though no less important development is along the lines of standardization of sizes. Thus there are almost as many one-pound coffee-carton sizes as there are brands. Recently, the National Association of Coffee Roasters, in co-operation with the Paperboard Industries Association and the U. S. Bureau of Simplified Practice, have started an investigation with the object of reducing these to probably two final sizes. The same movement is under way with the ice cream manufacturers' association in an effort to reduce brick ice cream cartons to not over two standard sizes and probably a single shape. These efforts are in line with modern practice and will be of great benefit to all concerned.

It has been said that American industry has made greater strides in the last six years than in any previous quarter century and that today no manufacturer dares to rest on his oars because of the sudden and revolutionary improvements constantly taking place. Perhaps these sketchy instances will show that the paperboard container industry is in step with this movement. In fact, there are times when its research departments must attempt to forecast developments the success of which will often depend on the finding of suitable containers.

Corrugated Cartons

By H. H. Squire
Hinde & Dauch Paper Company, Sandusky, Ohio

THERE is an old familiar adage which asserts that "You can't keep a good man down." This ancient truism might properly be paraphrased and broadened to include products as well as persons, for just as the thought matters even more than the thinker, so it is the product, and not the producer, that lives on and serves.

Back in 1871 there lived a man named A. L. Jones. He was one of the good men who couldn't be kept down. He invented and patented a product which he called "corrugated paper," and today a great industry serves millions with the product first conceived by him.

You can't keep a good product down either. In the earlier days of its progressive introduction, the corrugated-fiber shipping box, with its stiffening sheet of the Jones corrugated paper, met and conquered both skepticism and open antagonism, its final and enthusiastic welcome being reserved for unmistakable demonstration of its efficiency.

In the food industries, its entry was by way of the glass container trade. Among the first to take advantage of the economy and other benefits of the corrugated package were the producers of glass fruit jars. From this beginning the transition to other glass containers was comparatively easy, and manufacturers of food products who received their jars and bottles in corrugated boxes soon followed in its use.

From this point, however, progress among the food-producing industries was comparatively slow. It required a world war, with its attendant shortage of lumber and timber, to launch the fiber box as a suitable carrier of foods put up in tin, in which field it has now been the leader for several years. Given a fair trial, the fiber package has continually made good.

The advent of quick-freezing and dry ice has opened up another field for the corrugated box whose insulating qualities specially adapt it to the carriage of frozen products. Already it has been tried and adopted by the leading pioneers in the frozen-food trades. Its fitness for such service is pre-eminent and its increasing use throughout the entire food industry is assured.

Paper Sacks

By K. L. Allen
Vice-President, Adams Bag Company, Chagrin Falls, Ohio

THE WIDESPREAD USE of rope-stock paper bags for flour and other food products is a direct result of three inherent qualities—cleanliness, strength and economy.

They are clean because the paper it-

self, as well as the paste used in the seams, is cooked under steam pressure during manufacture, giving a thoroughly sterile product.

They are strong because the paper is made from manila rope and jute fibers, and because the manufacture is carefully regulated to accentuate the natural strength of these fibers.

They are economical because they cost the flour miller or other food manufacturer far less per pound of product packed than any other known type of shipping container.

Added to these qualities, there is another feature which should not be underestimated in the colorful times in which we now live—that is the beauty of the finished package. Both the grocers' shelves and the home kitchen are brightened by the presence of a gleaming white sack, brightly printed.

Paper shipping sacks came into use in a rather substantial way about the time of the Civil War, and performed their economic function at that time by releasing cotton cloth, which was much needed for other purposes. The cleanliness and economy of paper sacks were immediately recognized, and from that day to this their use has increased. Today a large proportion of flour and similar food products is packed in paper.

Analyzing the economy of paper shipping sacks for flour and other food products by taking a typical example, we find that a barrel of flour may be packed in eight one-eighth barrel white-coated blue-lined rope paper sacks (an eighth of a barrel sack of flour being a typical and popular package for the family trade) at a total cost of approximately 25c. for the eight one-eighth barrel sacks printed and delivered at the flour mill.* Out of the total of $1.19, therefore, which is today's retail price for one-eighth barrel of good flour, the cost of the sack is only about 3c. Surely this is economy brought to a high degree.

*In 25,000 lots.

The Cotton Bag

By J. S. GRAHAM
The Cotton-Textile Institute, Inc.

USE OF COTTON BAGS in the distribution and sale of food products represents one of the established and important markets for cotton cloth. It is a market that has a twofold importance on account of its present size and the potential development anticipated in line with current merchandising trends in the food industry.

It is estimated that the present practice of packaging staple food products—such as flour, sugar, salt, vegetables, and smoked meats—calls for the consumption of more than 100,000,000 pounds of raw cotton annually for the woven fabrics from which these sacks and containers are made. The wholesale grocery trade alone consumes more cotton bags each year than any other single group using fabric containers for its products.

In the course of its studies of the important uses of cotton, the Department of Agriculture has made an extensive survey of the wholesale grocery trade. A preliminary report compiled by the division of cotton marketing of the department contains some of the most conclusive evidence as to the present large use of cotton bags in this particular branch of the food industry. For example, reports received from grocers in 38 states concerning 23 commodities of major importance showed that nearly 50 per cent of these commodities, by weight, were packaged in cotton bags. Included among the selected commodities were flour, sugar, corn meal, salt, coffee, potatoes, beans, peas, grain, rice, cereals, cottonseed meal, onions, starch, grits, hominy, peanuts, dried apples, and buckwheat.

Further analysis of replies received during this study reveals that four-fifths of all cotton bags reported were used in packaging flour and sugar. Salt accounted for 10 per cent of the cotton bags used. The relative importance of cotton sacks for these and other commodities studied is also indicated by the following summary, showing the percentage of those predominantly packaged in cotton in the wholesale grocery trade:

Sugar	90.69	Grits and hominy	38.43
Flour	89.10	Buckwheat	29.25
Corn Meal	80.29	Coffee	17.89
Salt	70.77	Beans and peas	15.06

These data, it should be understood, do not cover other methods of distributing such foodstuffs, but they may be considered indicative of the widespread use of cotton containers for these products. At the present time extensive market research is being conducted by various agencies, including the Cotton Textile Institute, looking to a still larger use of cotton for packaging fruits, vegetables and other food products for retail distribution. Another important factor contributing to an increased demand for cotton sacks has been the progress which the food industry has made in its standardization of merchandising methods.

The advantages of cotton as containers for food products includes the following important features:

1. More attractive package.
2. Greater visibility of distinctive markings.
3. Strength with light weight.
4. Durability.
5. Greater re-use value.

In addition to these important qualifications cotton has another advantage that cannot be too strongly emphasized: cotton fabrics are inherently clean. They are made from a vegetable fiber that possesses this quality to a unique degree. This quality of cleanliness is of particular importance in fabrics used in any way for the shipment or handling of food products and it constitutes a psychological asset that must be readily apparent when the subject of packaging is considered from the standpoint of actual and potential consumer interest.

Careful study of the consumer viewpoint has also shown that many women prefer to buy staple foodstuffs such as flour, sugar and potatoes in cotton bags because when the bags have served their original purpose they are extremely useful for making convenient articles in the home. These bags can be easily handled in the kitchen, and when empty are often ripped open, washed and used again for a variety of purposes. Stamped

Choice potatoes are packed in cotton bags

designs on cotton bags are made up in a way that has no deleterious effect on the contents of the bag and may be easily removed by washing when desired.

Where fabric containers are specially made to permit a sampler or dryer—as is common practice in the case of rice—it has been found that the mesh in cotton bags would not resume its original protection after such an operation as other materials. Steps have been taken to alter the construction of fabrics used for such commodities and it is felt that the practical requirements of the trade can be freely met.

Some object to the use of cotton bags on the ground that they may be easily soiled. Such a criticism is offset by the fact that cotton is essentially much cleaner as a container. In some cases it has been possible to use colored cottons—in gingham or similar construction—to overcome any such difficulty as well as to make a more novel and attractive package.

In view of the opportunities to extend the use of cotton bags in the food industry—and among other industries—the cotton textile industry has taken aggressive steps to develop this important market. The Cotton-Textile Institute is one agency which is now carrying forward studies designed to promote greater use of cotton for containers for vegetables and citrus fruits in retail packages. During the past year special efforts were directed to the use of 15-pound bags for potatoes. Potato shippers in Idaho have been so successful in building up a demand for their products in 25-pound bags that this new practice was introduced to important shippers in the Aroostook country section of Maine. Here, shipments made in 15-pound bags to several important Eastern markets, including Boston and New York, and the interest already shown indicate that this method has found favor not only with shippers but also with wholesale and retail distributors and consumers.

Two important features—in addition to the general advantages of cotton sacks—have been reported. It has been found that bags of this size are easier to handle. They have a further advantage in permitting a free circulation of air and thus preventing decay, which sometimes develops when closed containers are used.

Stockinettes

By P. Frank Ashe
Waynantskill Manufacturing Company
Troy, N. Y.

THE BENEFITS which result from the use of stockinette bags for the smoking of hams and bacon slabs are so decided that they are now used by about 90 per cent of the trade. Stockinette frankfurter bags also are rapidly increasing in popularity.

Ham stockinettes are made in a great variety of sizes to cover hams weighing from 2 to 40 pounds and in a variety of weights. While the size stockinette for hams of different weights is standardized to a great extent, the difference of opinion that exists between smokehouse operators as to the weight of stockinette to use is considerable.

Some use a heavy stockinette in which the ham smokes slowly, others use a light weight bag which retards the smoking process very little, and still others use even lighter weights. Some concerns find it economical to use of stockinette that is heavy enough to stand washing—some style bags can be washed and used over seven times and other styles two or three times—while other packers prefer a lightweight bag which they use for one smoking process only.

While there are no definite figures available on the saving in cost and comparative shrinkage with and without the stockinette, all things being equal there should be a saving in shrinkage in the stockinette process, since the stockinette, if properly put on, reduces the evaporation of moisture. Of course, results will be somewhat affected by the method of shipping meat, depending on whether or not the stockinette is removed at the time of shipment.

The labor cost of trimming after cure is eliminated with the stockinette method; the yield is increased; there is a saving in trim and shrinkage, and a big improvement in the appearance. There is a saving of both labor and wiping material when the stockinettes are used, and also considerable saving in time in the wrapping operation for shipment. It is a well-known fact that naked smoked meat will sweat in damp weather, usually necessitating an extra wiping operation before shipment. The use of stockinette eliminates this extra cost.

There are a great many desirable features in the use of stockinettes in the smoking of hams, but perhaps the most valuable is the sanitation. Without a doubt the ham is more often handled than any other cut of meat. The use of stockinette keeps flies, dust and unclean hands from contact with the ham from the time it is put on the machine to be stockinetted until it is opened for use. Sanitation is an important consideration also in the use of stockinettes for covering beef quarters, calves, lamb, pigs, as well as many other cuts.

Metal Foil

By W. C. White
Aluminum Company of America
Pittsburgh, Pa.

A WINESAP APPLE is one of Nature's beauty packages; a coconut embodies her ideas of durability. Prodigal Nature, however, places no dollars and cents value on time and materials, while man in wrapping his manufactured food products must choose with an eye to cost, as well as to utility, durability and an attractive appearance.

The proper balance among these various considerations, which a newspaper headline writer might term "Price, Protection and Pulchritude," varies with the commodity to be packaged. Foil has most frequently been used where the need for protection to the product and the desire for its enhanced appearance have been important. For this reason foil has established during the past several decades a definite idea of quality in the mind of the buying public, although its cost is low, as is indicated by its use on 1-cent chewing gum sticks and on cigarettes of an extremely narrow margin of profit.

The use of metallic foil for food products wrapping during 1929 has been characterized by research designed to fix within narrow limits the unusual ability of various foils to exclude moisture, light and radiant heat. Foil-wrapper users who first adopted metal wrappers, both as a moisture seal and for their appearance, have come to realize the value of a sheath of metal in excluding light and heat rays.

In the case of a foil-wrapped package exposed to sunlight, a favorable heat-insulation effect is to be expected from the foil. In the petroleum industry, aluminum foil is in active use as a heat-reflecting coating for oil tanks, on which the foil is applied like wall paper, over a newly developed adhesive. The extent to which heat is reflected is shown by the result of "foiling" the roof of a newly painted 80,000-barrel tank. The maximum temperature in this tank was consistently 40° to 45° lower than in an unpainted tank, on an average hot summer day.

Experiments have been initiated to determine what damage may be done to food products of delicate flavor by the action of light. With dairy products, for example, tests have been conducted by several of the larger butter-producing organizations. While maintenance of original weight has been found to be one of the advantages, and one which often offsets the cost of foil wrapping, the ability of foil to exclude foreign tastes and odors and to seal in the original flavor and aroma of the product

has been so nearly perfect as to surprise the various experimenters.

These results have a close connection, no doubt, with the findings of chemists in investigating the effect of light on milk fats, an effect evidenced by the "cardboard" taste and "linseed oil" odor which develops in whole milk or cream that has been exposed to light, even to diffused light at low temperatures. William C. Frazier of the Research Laboratories Bureau of Dairy Industry, U. S. Department of Agriculture, discusses in *Journal of Dairy Science*, this catalytic effect of light in the oxidation of milk fats. He states that exposure to diffused light for eight or more hours is sufficient to develop the defective taste and odor noted in all of the milk samples tested from a number of sources. Further research may identify daylight and radiant heat as contributing factors in the deterioration of other food products, whether or not milk fats are present in them. A consideration of the extent to which various types of foil offer a barrier to such light and heat promises to interest additional manufacturing companies as time goes on.

Such experiments lead the way to more exact determinations in specific instances. They are interesting at this time in that they seem to forecast, for all wrapper materials, a closer calibration of performance in ways previously not considered important.

The visual attraction that foil possesses accounts for its widespread use by show window decorators and in other fields where it is chosen purely for its pleasing appearance. Recently a prominent foil manufacturer has developed the sale of assortments of varicolored foils for the "home-art" decoration of trays, lamps, and similar objects.

The aluminum or tin foil wrapping in which tea is retailed is eloquent testimony of the power of foil to preserve, for the delicate flavor of tea is proverbial. Yeast wrappers of aluminum or tin foil are likewise familiar to millions of families to whom the strict laboratory control of yeast production, and the many safeguards to its purity may not be so well known. The almost universal use of aluminum foil for chocolate bars emphasizes the fact that foil meets production demands in a field where low-cost, high-speed operation is added to severe requirements of protection. Cake, cheese, butter, chewing gum, confectionery, ice cream, cigarettes, cigars, tobacco, coffee—all demand types and styles of tin or aluminum foil that will perform its special duty to the product.

Foil is metal, and when the proper metal is chosen for the desired purpose, the foil wrapper combines attractive appearance and a permanent protection for the product, at a price which is well under the worth of these two valuable assets. Year by year, manufacturers standardize more firmly on foil wrappers which invite buyers to purchase a product that has been freshly kept.

STYLES OF FOIL FOR VARIOUS PRODUCTS

Unbacked Foil

Bottles (usually lacquered; plain or embossed foil).
Tea (usually plain foil).
Yeast (plain foil).
Confections (plain or embossed; often lacquered foil).
Cheese (plain foil).

Wax-paper Backed Foil

Cake (usually embossed and printed foil).
Candy Bars (printed; plain or embossed foil).
Cheese (printed; usually embossed foil).
Chewing Gum (plain foil).
Cigars (embossed foil).
Ice Cream Bars (embossed, printed foil).
Sausage (embossed printed foil).
Soap (printed, plain foil).

Special Backing Foil

Cheese (special paper foil).
Cigarettes (glue lined paper foil).
Coffee (asphalt or glue "lined" paper foil).
Tobacco (glue "lined" paper foil).

Foil Covering Areas Per Pound
(Square Inches)

Thickness (Inches)	Aluminum	Tin	Lead
0.0003	34,000	12,600	8,100
0.00035	29,200	10,800	6,950
0.0004	25,600	9,450	6,075
0.00045	22,700	8,380	5,400
0.0005	20,500	7,550	4,860
0.0006	17,000	6,280	4,050
0.00065	15,700	5,800	3,730
0.0007	14,600	5,400	3,475
0.0008	12,800	4,730	3,040
0.001	10,250	3,790	2,430
0.0015	6,800	2,510	1,620
0.002	5,100	1,880	1,215
0.0025	4,100	1,520	970
0.003	3,400	1,260	810
0.004	2,550	950	610
0.005	2,050	760	485

New Ways of Using Metal Foil

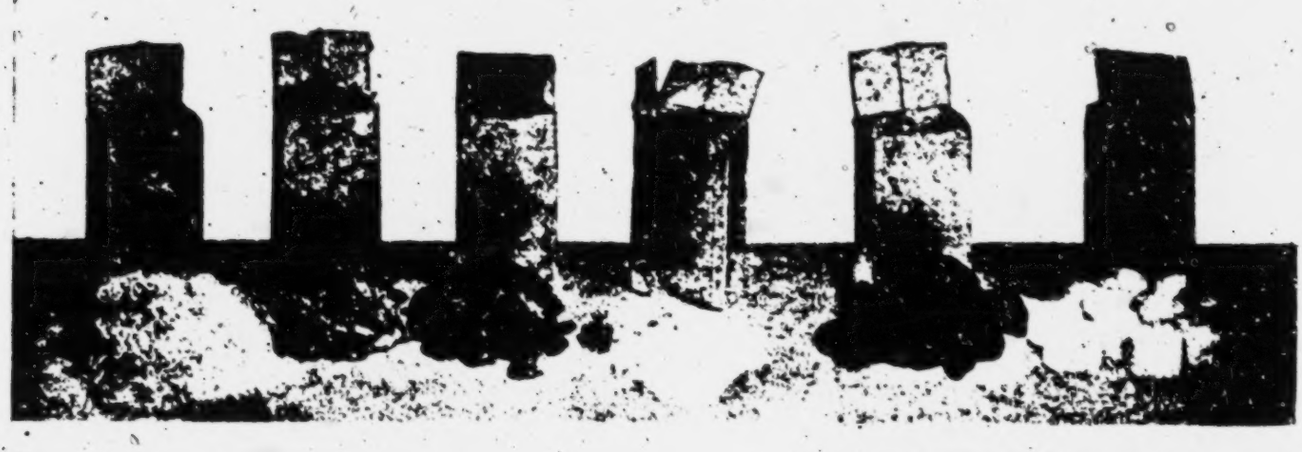
By F. H. DREXLER
Reynolds Metals Company
Louisville, Ky.

FOIL is ordinarily used in connection with a paper backing. Tissue, bond, parchment, manila, and glassine have been used not only to reinforce the foil but to bring those additional elements of protection that serve to make the foil-paper wrapping unequalled for utility and protection.

A more recent development in the foil field is the metal foil-surfaced or foil-lined carton. This carton consists of the usual paper board combined with a thin sheet of metal foil by a waterproof cement. A carton of this kind possesses most of the advantages of both metal and paper containers. It is moisture-proof and airproof, light in weight, has a striking appearance, and is inexpensive in cost. These foil-surfaced cartons are desirable as much because of their sales value as because of their keeping qualities.

Foil tight-wrapped packages after two weeks in a laboratory humidor under identical conditions with paper-wrapped packages shown opposite.

Coconut *Nuts* *Dried Peaches* *Jello Powder* *Prunes* *Marshmallows*



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These cartons are available in all types—top-openers, end-openers, glue-enders, and display cartons. Tea packers are finding these cartons useful for packing half pounds and quarter pounds, for they not only do away with the foil liner formerly used but, by having the foil outside the carton, provide a package of high attention value.

Another development with far-reaching possibilities for the food industries is the foil-surfaced tight-wrap. This consists of an impervious sheet of foil bonded to paper by a waterproof coat and sealed around a paper shell or carton in the same way as a paper wrapper. The metal surface provides remarkable preservative qualities. Several months ago, in a series of tests conducted with prunes, it was shown that under normal conditions a foil tight-wrapped package suffered only 3 per cent loss in weight by shrinkage, while a waxed-paper package lost 7 per cent, and a dry-paper wrapped packed 15 per cent.

Another series of accelerated tests was made in a laboratory humidor on prunes, apricots, nuts, marshmallows, and gelatine, with both the paper tight-wrapped and the foil tight-wrapped packages. When the paper carton was opened, the contents was found to be covered with mold and totally unfit for consumption, whereas the contents of the foil-covered package was as good as the day it was packed.

The value of such a package in the dried-fruit industry is certainly evident when one considers the tremendous loss from shrinkage and returned goods, and the severe tests which the foil tight-wrapped package has passed promise an increasing use for this protective covering in the future.

Tin Cans

A brief review of the general-line can, and a summary of the 1930 status of the packer's can, based on the better practice of the canning industry

FOOD INDUSTRIES STAFF

THE hermetically sealed cans in which foods to be sterilized by heat are packed is referred to by the trade as a "packer's can." Cans for products that do not require sterilization by heat in a bacteria-tight container are customarily referred to as "general-line cans." The kinds of foods that are sold in the latter comprise a large list, some of the more important being baked goods, including cakes, cookies, biscuits, wafers, ginger snaps; confectionery, including candies of all sorts; oils, such as salad oil, corn oil, cottonseed oil, olive oil; sirups, such as corn sirup, table sirups, maple sirup, honey, molasses; coffee, tea, and spices of all sorts; baking powders, cocoa, powdered milks, all sorts of prepared foods, of which malted milk may be taken as a type; and, lastly, nuts.

So-called "canned foods" are defined as foods that are packed in hermetically sealed containers and sterilized by heat. General-line cans often differ in construction from packer's cans, because the latter must be able to withstand heat treatment, its consequent internal and external pressures, and their resultant strains. As the heat treatment is primarily for sterilizing the contents, the packer's can is chiefly used for perishable foods, while the general-line can is for non-perishable foods. This distinction, however, is not absolutely rigid.

General-Line Cans—Packages and containers for non-perishables range from a sheet of wrapping paper to barrels, making it obvious that technological reasons should govern the choice of the container. Liquid products demand a breakage-proof container that is also leakproof and capable of tight closure. For this purpose the general-line tin can is very serviceable. An added feature is its adaptability to direct decoration with colors.

Products that are easily affected by moisture must, of necessity, be packed in containers that are impervious to it. Hence such substances as baking powder have been habitually packed in tin cans, for the admission of a very small quantity of moist air would cause deterioration of its leavening power. Another group of foods suitably packaged in tin cans includes those that carry volatile flavors or flavors easily changed by atmospheric oxygen. Coffee, particularly cut or ground coffee, represents one of the extreme types of this group, and nearly everyone is familiar with the need of tight packages for coffee. Probably more attention has been devoted to proper packaging of this single product than to any of the other products the chief value of which lies in volatile flavor. Many firms that take special pains in producing the finest possible package of coffee use a vacuum package in order to eliminate the possible influence of air in the can.

Although spices may be shipped in bags, frails, and other loose containers when they are in the form of whole spices, the problem of packaging becomes quite different after the spices are ground, and unless the package is a tight container, the essential oils constituting the chief flavoring materials of spices escape by volatilization.

Paper tight-wrapped packages after two weeks in a laboratory humidor under identical conditions with the foil-wrapped packages shown opposite. The marshmallows were reduced to a liquid and the powder to a moist jelly. The peaches and coconut were overgrown with mold.

Dried peaches *Marshmallows* *Jello powder* *Coconut* *Nuts* *Prunes*

Defendant's Exhibit No. 290

Wrappings

Transparent Materials Win Leading Position

GREATER transparency for their products was the goal of the manufacturers of cellulose wrapping materials as the trend toward packaging of foods became accelerated following the war period.

Not only was the technology of making the well-known sulphite, glassine, and parchment-like papers studied and improved to produce thinner and more transparent, though equally strong sheets, but also new chemically-processed celluloses were introduced. As a result, by 1930 they had come to be regarded as the ultimate in transparency and the ideal packaging material to give decorative protection to the product or to the package containing the product. During the past five years attention has been directed to making these transparent materials more resistant to the transfer and absorption of moisture, to the passage of light rays which influence rancidity in fat-bearing foods, to the effect of changes of temperature, to change in color, and to the development of static during machine wrapping operations.

Also during the past five years much has been done to fabricate these transparent materials into wrappers, bags, envelopes, casings, and windows or panels in wrappers, bags, boxes or cartons in which foods are wrapped or packed.

Left: Opaqueness in a wrapper does give contrast for printing and decorative designs, but transparency is the quality that permits the products to sell themselves.

SPECIAL ma-

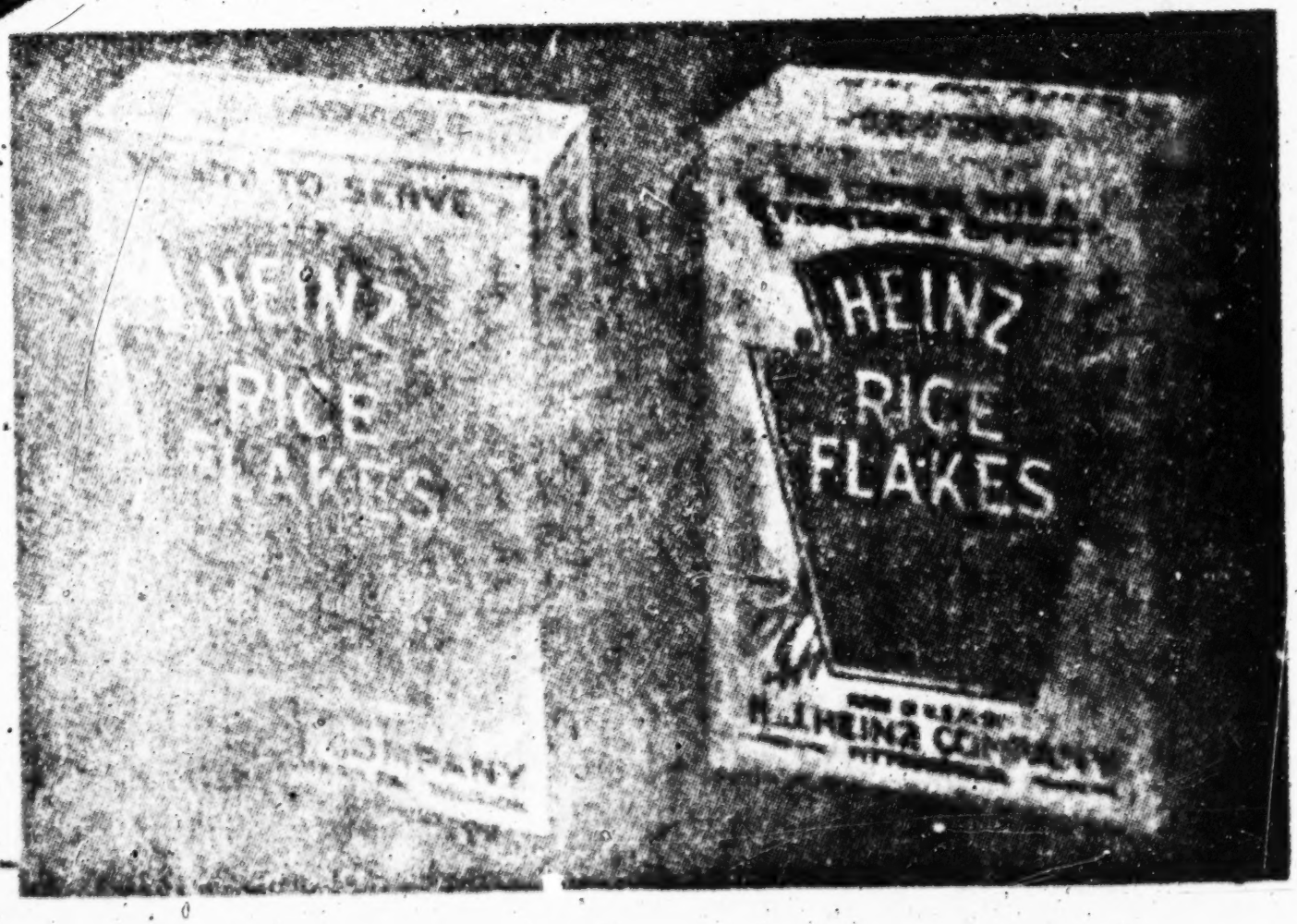
One of these wrappings is Riegel special glassine and the other is "Cellophane." Can you tell which is which?

Printing on the wrapper instead of the carton improves appearance of waxed-paper wrapped package. Electric-eye control on wrapping machine gives correct register for printed panels.

ing. Special heat-sealing grades have been introduced for automatic bread wrapping.

Through the development of better inks and methods of using them, color printing and lithography is now as common on these materials as on papers, glassines, or parchments.

The first of these transparent materials to be introduced is that of the du Pont Cellophane Co., known as Cellophane. It has been followed by Sylphrap of Sylvania Industrial



much used for food wrapping. Being highly resistant to humidity and temperature changes these acetate materials make good windows for boxes and cartons. Visking is of the viscose type and used as casing for sausages and meat puddings. The base of Pliofilm is first-grade crude rubber and it is grease-resisting and heat-sealing. Sylvania Sanicase K, while composed of chemically-treated cellulose, is not of the viscose type, but is used as casing for sausages and meat puddings, as is the viscose type.

Progress in transparent packaging materials has not been wholly in the hands of the manufacturers and fabricators of these highly transparent celluloses. Manufacturers of waxed sulphite papers, glassines and waxed glassines, and parchments have achieved greater transparency in their papers, but of greater importance is their production of papers on a relatively low-cost basis for specific uses. Almost 100 per cent performance on automatic wrapping and heat sealing machines is one accomplishment. Another achievement is the transfer of printed decorative and informative composition from the container to the waxed wrapper. This is done with such a finish and trueness of register under electric-eye control on automatic wrapping machines that the package has all the protection of moisture-resisting wrapping and the decorative beauty of a printed or lithographed wrapper.

HIGHLY-translucent, parchment-like papers are now available for butter, lard, and meat wrapping, with such effective grease-resisting properties that they can be used as inner liners or lamination layers of inexpensive cardboard containers to protect fat- and milk-containing confections, pastries and prepared mixes against loss of fat to the container and absorption of objectionable flavors and odors by the contents. Crinkled parchments are also replacing the traditional corn husks as wrappers for such products as tamales. Widespread marketing of sliced bread has been responsible for the introduction of a special, fast-sealing paper for automatic machine wrapping of these breads.

These are only a few of the accomplishments during the past five years of such papermaking companies as the Kalamazoo Vegetable Parchment Co., Parchment, Mich.; Paterson Parchment Paper Co., Bristol, Pa.; Riegel Paper Corp., New York, N. Y., and Transpara Paper Co., Rhinelander, Wis. The last-named company, as well as S. W. Weis, Chicago, Ill., has introduced resin-treated papers which in transparency and cost are between waxed glassines and the highly transparent celluloses.

Such notable advances have been made during the past five years in the technology, fabrication, and applications of glassines, especially of the waxed or moisture-proof grades, that they have been faring surprisingly well in their competition with the transparent celluloses. Their transparency has been increased to almost 90 per cent of full transparency and their strength and pliability have been retained. Moisture-resisting qualities are obtained both by waxing and by laminating with wax. Ordinary adhesives are sufficient to give rapid and effective sealing. Also they can be highly decorative by use of color-printing and lithography, embossing, and lacquer.

These papers have made particular progress in the better packaging of bakery products, and as wraps for glass-packed foods. For bag and envelope packaging the highly transparent bleached glassine is much in demand by salted nut, potato chip, and doughnut makers.

Coatings of transparent cellulose add to the sales appeal of meat products.

M 5200

Defendant's Exhibit No. 291

EXTRACTS FROM NATIONAL BUREAU OF
STANDARDS MISCELLANEOUS PUBLICATION
M 127

AUGUST 5, 1937

U. S. DEPARTMENT OF COMMERCE
DANIEL C. ROPER, Secretary
NATIONAL BUREAU OF STANDARDS
LYMAN J. BRIGGS, Director

NATIONAL BUREAU OF STANDARDS MISCELLANEOUS PUBLICATION M127

PERMEABILITY OF MEMBRANES TO WATER VAPOR WITH SPECIAL REFERENCE TO PACKAGING MATERIALS

By
FREDERICK T. CARSON

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PERMEABILITY OF MEMBRANES TO WATER VAPOR WITH SPECIAL REFERENCE TO PACKAGING MATERIALS

By Frederick T. Carson

ABSTRACT

A study of data from about 30 sources in the literature shows that measurements of the permeability of membranes to water vapor have been made by four types of methods, with many modifications, and that the testing conditions have varied widely. The test period ranged from 2 to 2,000 hours; the temperature from −14 to 45° C; the area of the specimen from 0.15 to 323 cm²; and the vapor-pressure difference from 0 to 72 mm of Hg. Considerable variety was also found in methods of sealing on the specimen, ventilation of the specimen, and units of expressing the results. Data have been reported in at least 20 units.

Sheet materials used in packaging commodities range in permeability to water vapor from that of waxes and rubber to that of textile fabrics. The data indicate that the transpiration of moisture is proportioual to the area, to the time in the steady-state region, and, within certain limits, to the difference in vapor pressure. It is reported by some to be inversely proportional to the thickness also, while others disagree. A seal to prevent edge leakage is of the utmost importance. Temperature requires close control. Relative humidity, especially at high values, and the slowness of diffusion of water vapor through air have a marked influence in many cases.

Suggested mechanisms of moisture transpiration include consideration of gaseous diffusion, diffusion of moisture in solid solution, movement of moisture as a function of the content of hygroscopic moisture, and migration of adsorbed water along surfaces.

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I. INTRODUCTION

Integuments in great variety, including fabrics, leather and animal membranes, rubber and rubberized materials, paint and varnish films, insulating coverings, and wrapping materials, that contribute to the mode of life of modern man, have their usefulness determined in some

M 3102

measure by their ability either to permit or to prevent the passage of water vapor through them. It is not surprising, therefore, that considerable attention has been given to means of measuring the rate of passage of water vapor through such materials. An increasingly important class of integuments is the moisture-resistant wrapping and packaging materials that are designed primarily to preserve and protect foodstuffs and other hygroscopic articles of commerce during the period that intervenes between their production and their consumption. The importance of adequate means of testing the permeability of such materials to water vapor is evident, and the interest in such testing methods is widespread. The demand for a standard method of testing wrapping and packaging materials for permeability to water vapor has become so insistent that a subcommittee was appointed some months ago by the Technical Association of the Pulp and Paper Industry (TAPPI) to study the problem.

The reports of a considerable number of investigations that have been made on the water-vapor permeability of various materials during the past 15 years are reviewed in this paper. The information contained in these reports is particularly pertinent in the development of a standard testing method, and is also indicative of many of the difficulties that may be anticipated in working out an adequate standard of measurement, which, at first thought, appears to be a very simple problem.

II. COMPARISON OF TESTING METHODS AND DATA

1. EXPLANATION OF TABLES

Comparative data from the various reports have been assembled in tables 1 and 2. The methods and testing conditions used are listed in table 1, while table 2 gives the results, expressed in a common unit for ready comparison, together with references to the sources of the data. The reference numbers in the tables and in the text correspond to the list of references at the end of the paper.

The testing methods are of four types. The first two methods described below are of the same type, but they are of such significance as to require separate description.

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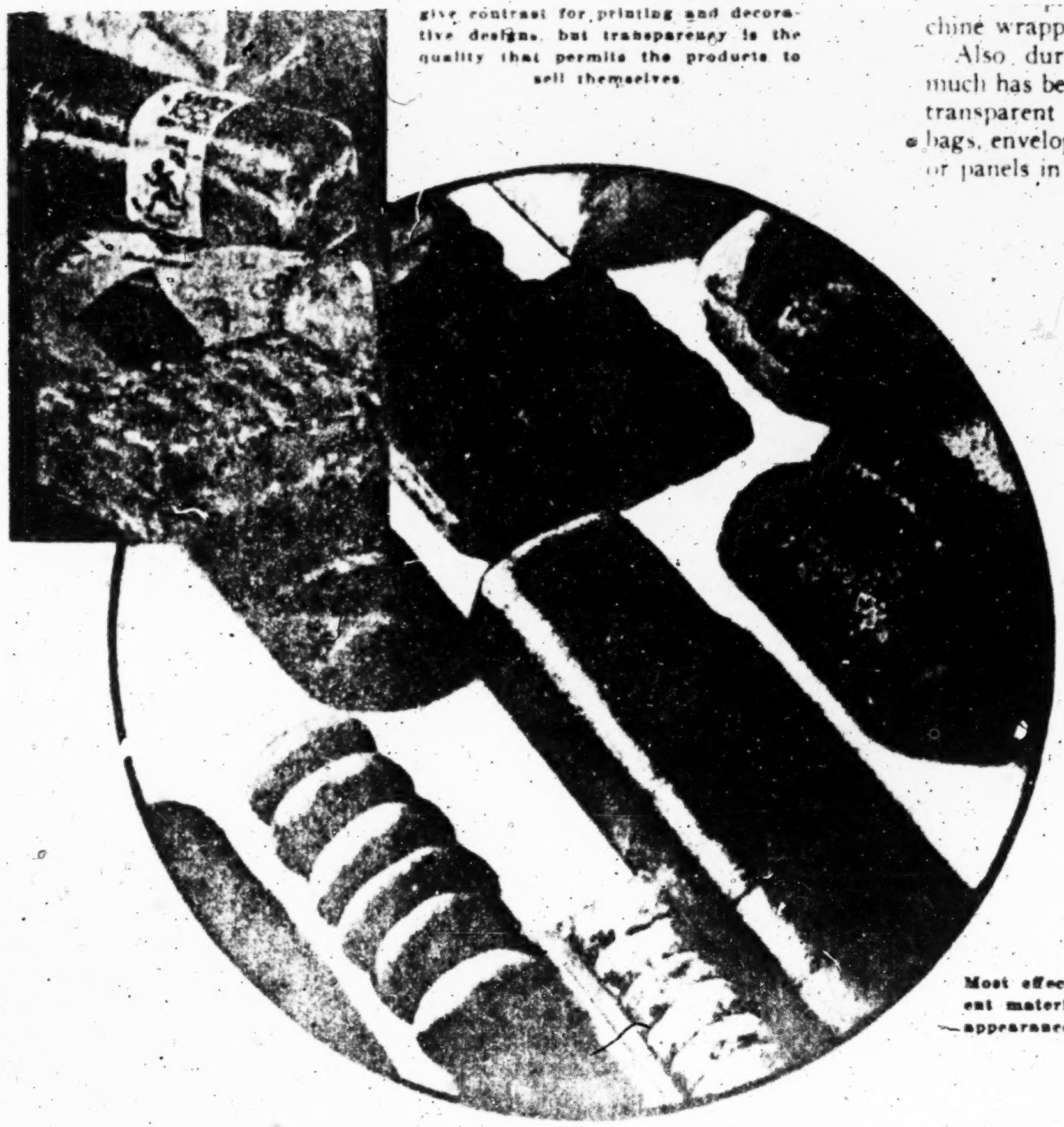

give contrast for printing and decorative designs, but transparency is the quality that permits the products to sell themselves.

chine wrapping operations.

Also during the past five years much has been done to fabricate these transparent materials into wrappers, bags, envelopes, casings, and windows or panels in wrappers, bags, boxes or cartons in which foods are wrapped or packed.

SPECIAL machines and adhesives have been developed to handle and seal these materials in an automatic manner. The moisture- and the grease-resisting types have necessitated the use of odorless organic solvents, such as "Cellosolve" and "Methyl Cellosolve" of the Carbide and Carbon Chemical Corp. and pressure to get satisfactory seal-

Most effective wrapping with transparent materials results when the natural appearance of the product is permitted to be seen.

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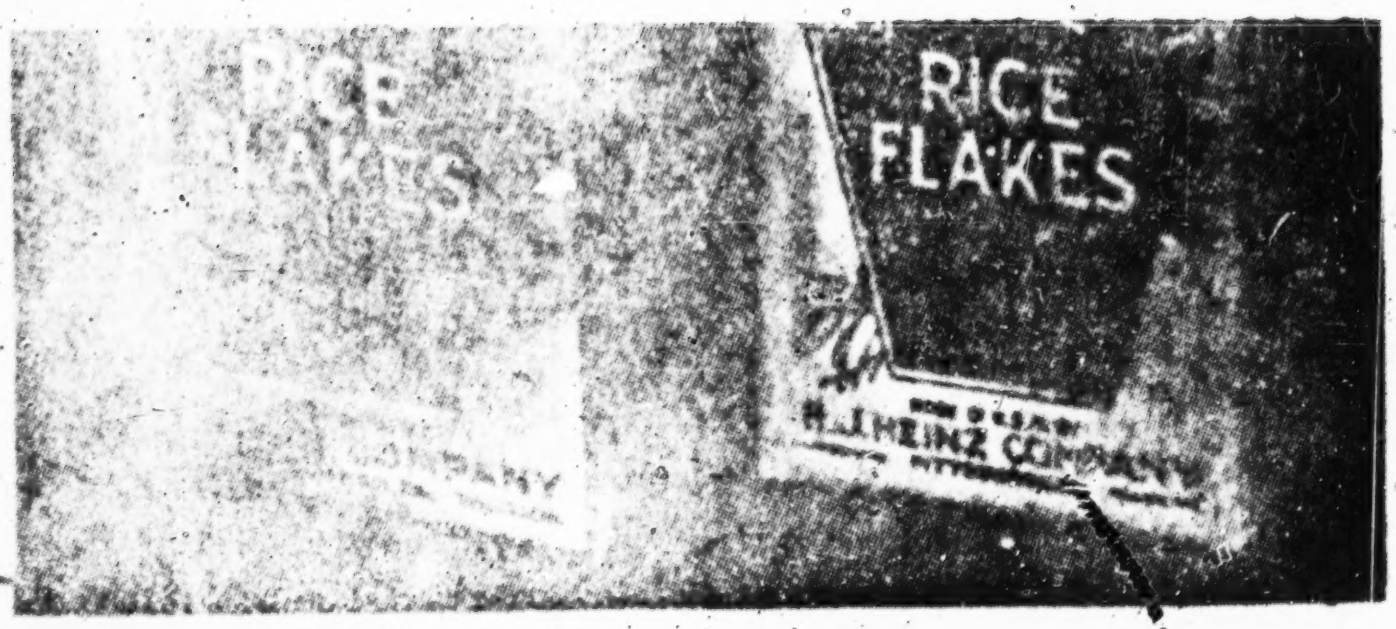
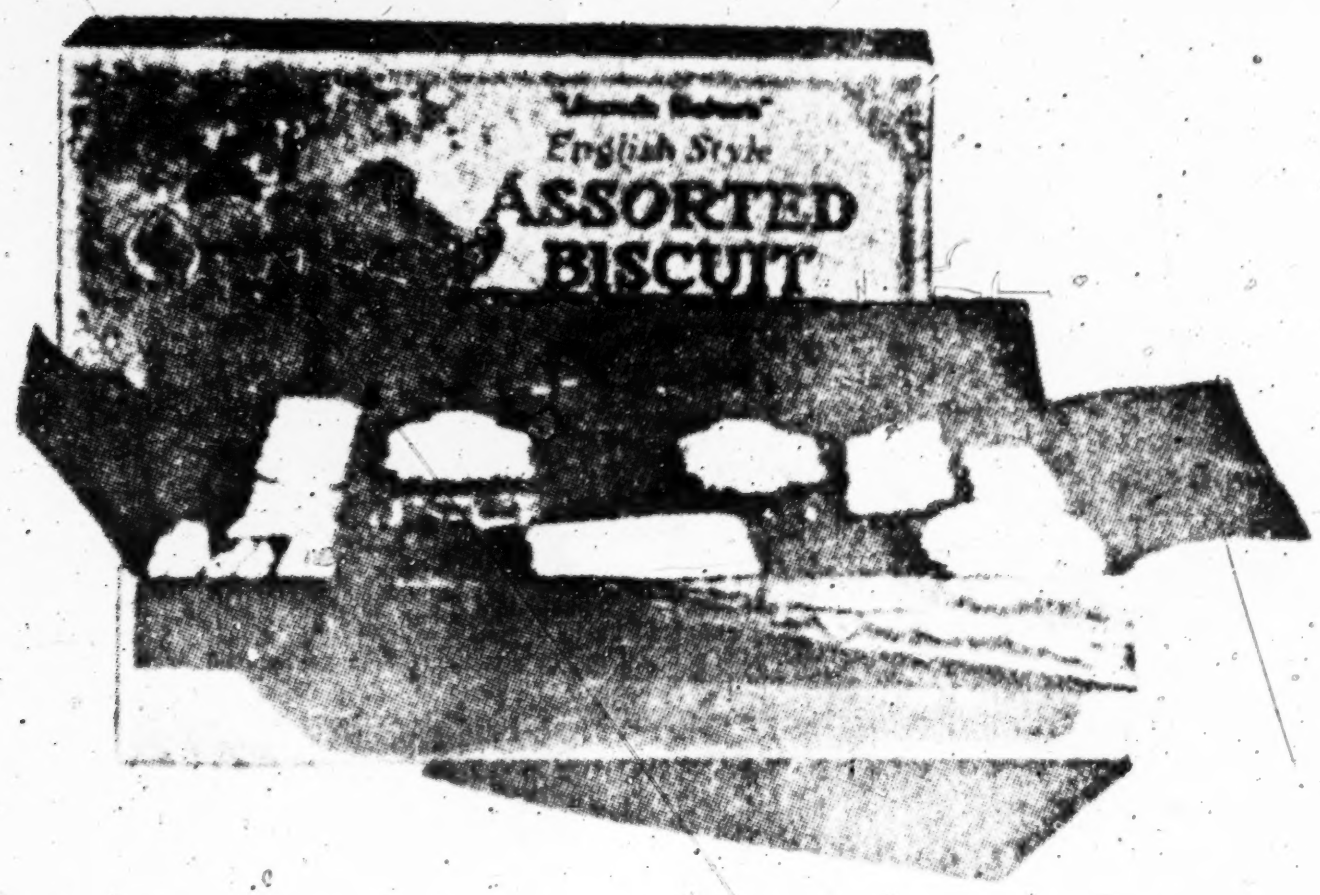
inks and methods of using them, color printing and lithography is now as common on these materials as on papers, glassines, or parchments.

The first of these transparent materials to be introduced is that of the du Pont Cellophane Co., known as Cellophane. It has been followed by Sylphrap of Sylvania Industrial





Corrugated glassines are new in high-grade biscuit packing. They may be colored and are grease-resisting

Corp., Protectoid of Celluloid Corp., Kodapak of Eastman Kodak Co., Inceloid of American Products Manufacturing Co., Visking of Visking Corp., and more recently Pliofilm of Goodyear Tire & Rubber Co. and Sylvania Samcase K of Sylvania Industrial Corp.

Cellophane is of the viscose type and available in plain, moisture-resisting, grease-resisting, and M.S.T. or heat-sealing grades. Sylphrap is also of the viscose type and available as plain, embossed, moisture-resisting, heat-sealing, ultra-violet resisting, and "Old Gold" or anti-rancidity grades. Inceloid, Protectoid, and Kodapak are of the cellulose-acetate types, are highly water-, grease- and oil-resistant; but only Kodapak is

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TABLE 1.—*Methods and testing conditions used by various investigators in measuring the permeability of membranes to water vapor*

Reference [1]	Method [2]	Moisture gradient [3]	Over-all vapor-pressure difference	Temperature	Total pressure difference	Area	Test period	Nature of edge seal [4]	Forced circulation [5]	After steady state?	Unit used in report
			mm of Hg	°C	mm of Hg	cm²	hr				
[1]	*A*	*W-A-S-50h*	9.3	21	0	45.6	16	*C* only	Rapid	No	g/100 in²/24 hr.
[2]	*A*	*W-A-S-50h*	9.3	21	0	32	16	*C*, rubber gasket	Rapid	Yes	g/m²/24 hr.
[3]	*A*	*W-A-S*-warm air	35(?)	37	0	34		"Cemented"	Mod.	Yes	g/hr/m².
[4]	*A*	*W-A-S-A*-$CaCl_2$	50.6	38	0		24	"Sealed tightly"	Mod.	No	g/m²/24 hr.
[7]	*A*	*W-A-S-1h*	53	40	0	36	24	Beeswax	Mod.	No	g/100m²/hr.
[9]	*C*	High *h*-*S*-low *h*	6 to 17	15 to 21	0	16.3	97	*C*, rubber solution	Slight		g/hr.
[10]	*B*	*W-A-S-A*-P_2O_5	23.8	25	0	50.2		Rubber cement	None	No	l/m²/24 hr/atm.
[11]	*B*	95*h*-*S-A*-Al_2O_3	25	27	0	72(?)		"Sealed"	Mod.		hr-cm²/mg.
[12]	*A*	*W-A-S-A*-$CaCl_2$	32	30	0	36	24	"Plosin"	None	No	mg/3 hr.
[14]	*A*	*W-A-S*-63*h*	37	38; [6] 21	0	65.5	4	"Seccotine"	None	Yes	g/sec/1,000 cm².
[15]	*A*	*W-A-S-A*-$CaCl_2$	23.8	25	0	213	4	"Sealed"	Mod.	Yes	g/in²/24 hr.
[16]	*A*	*W-A-S-A*-0*h*	23.8	25	0			*C*, wax, Hg, petrolatum	None		g/cm cube/hr/mm of Hg.
[17]	*B*	95*h*-*S-A*-Al_2O_3	25	27	0	72(?)		Wax	Mod.		mg/hr/cm².
[18]	*A*	*W-A-S-A*-H_2SO_4	49.2	38	0			"Sealed"	Mod.	No	mg/m²/hr.
[19]	*A*	*W-A-S*-65*h*	6 to 14	21 to 38	0	25.5	400	Beeswax-rosin	Mod.	Yes	g/hr/in²/mm of Hg.
[20]	*A*	*W-A-S*-50*h*	9.3	21	0	323	168	*C*, rubber gasket	Rapid	No	g/24 hr/100 in².
[21]	*A*	*W-A-S-A*-H_2SO_4	1 to 55	40	0	7.1		Tinfoil, rubber	None	Yes	g/sec/cm².
[22]	*A*	*W-A-S*-65*h*	37	38; [6] 21	0	75		Rubber cement	None	Yes	mg/sec/1,000 cm².
[23]	*D*	*W-V-S-V*-P_2O_5	23.8	25	23.8	5	700	*C*, mercury	None	Yes	mg/hr/cm².
[24]	*A*	*W-A-S*-65*h*	6.1	20	0	200		*C*, rubber gasket	Rapid	No	g/dm²/hr.
[25]	*A*	*W-A-S-A*-H_2SO_4	3 to 32	30	0	7.5	2,000	Shellac, cerate resin	None	Yes	g/in.²/24 hr.
[26]	*A*	*W-A-S-A*-0*h*	6 to 24	21 to 25	0	12.9	900	*C*, gasket, wax	None	Yes	g/hr/cm/mm of Hg.
[27]	*C*	100*h*-*S-A*-$CaCl_2$	31.9	50	5	38.7	2	*C*, petrolatum	Slight	No	g.
[28]	*A*	*W-A-S*-50*h*	9.3	−14, 21	0	42	120	Beeswax	Mod.	Yes	g/m²/24 hr.
[29]	*E*	100*h*-*S-V*-0*h*	17.5	20	760	0.15			Slight		g/cm²/sec.
[30]	*B*	*W-A-S-A*-H_2SO_4	0 to 72	5 to 65	0	1.27	168	*C*, cork gasket	None	Yes	mg/24 hr.
[31]	*B*	*W-S-A*-$CaCl_2$	55.4	40	0	28	24	Beeswax-rosin	None	No	hr-cm²/mg.
[33]	*B*	95*h*-*S-A*-Al_2O_3	25.4	27	0	72	48	"Special wax"	Mod.		hr-cm²/mg.

[1] References at end of paper.
[2] Methods described in text.
[3] *W*=Water surface; *A*=air space; *V*=evacuated space; *S*=specimen; and *h*=percentage of relative humidity.
[4] *C*=Clamping ring.
[5] Circulation of air in contact with 1 face of specimen? Mod.=moderate; rapid=1 to 3 m/sec.
[6] 38° on 1 face, 21° on the other.

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TABLE 2.—*Permeability to water vapor of various materials reported in the literature* [1]

WATER-VAPOR PERMEABILITY [2] IN g/24 hr/m²/mm of Hg

Regenerated cellulose	Moisture-proofed regenerated cellulose	Paper	Waxed paper	Other moisture-proofed papers	Vegetable parchment	Glassine	Waxed glassine	Moisture-proofed fiber board	Asphalt
38 [4]	0.06 [7]	73 [1]	0.04 [27]	0.08 [28]	25 [4]	35 [12]	0.34 [4]	0.2 [2]	1.1 [26]
39 [7]	.1 [4]	74 [2]	.24 [4]	8.0 [28]	70 [20]	48 [1]	7.6 [4]	.2 [28]	.....
67 [1]	.2 [18]	80 [20]	.25 [18]	40 [24]	.....	56 [2]	.....	2.0 [15]	.....
92 [20]	.2 [12]	125 [24]	1.0 [28]	.....	.....	65 [20]	.....	.....	.....
115 [14]	.2 [28]	250 [24]	1.5 [1]	.....	.....	.....	.....	.....	.....
225 [24]	.4 [7]	.....	1.6 [2]	.....	.....	.....	.....	.....	.....
360 [29]	.6 [28]	.....	4.4 [4]	.....	.....	.....	.....	.....	.....
.....	.7 [2]	.....	14 [18]	.....	.....	.....	.....	.....	.....
.....	1.0 [1]	.....	17 [1]	.....	.....	.....	.....	.....	.....
.....	1.6 [24]	.....	18 [2]	.....	.....	.....	.....	.....	.....
.....	.....	.....	120 [27]	.....	.....	.....	.....	.....	.....

Wax	Cellulose acetate	Cellulose nitrate	Cellulose ethers	Protective films [3]	Rubber	Leather	Textile fabrics	Copper gauze	Open cell
0.06 [26]	0.04 [28]	1.4 [31]	10 [26]	0.19 [33]	0.04 [28]	1 [9]	75 [22]	120 [14]	218 [1]
.....	1.1 [26]	6 [31]	20 [20]	.21 [11]	.25 [10]	5 [30]	100 [3]	.....	251 [20]
.....	2 [28]	15 [20]	42 [20]	.3 [17]	.8 [20]	100 [30]	105 [2]	.....	330 [14]
.....	22 [2]	.....	.....	.7 [19]	1.4 [26]	.....	115 [14]	.....	1,327 [1]
.....	44 [1]	.....	.....	5.9 [32]	3.9 [23]	.....	126 [20]	.....	.....
.....	68 [20]	.....	.....	8 [11]	6.5 [26]	.....	130 [14]	.....	.....
.....	150 [26]	.....	.....	15 [17]	9.6 [1]	.....	.....	.....	.....
.....	.....	.....	.....	26 [19]	.....	.....	.....	.....	.....

[1] The numbers in brackets refer to the list of references at the end of the paper.
[2] Values in references [11, 19, 20, and 33] were reported for a thickness of 1 mil (0.025 mm). Values from reference [26] have been calculated to a thickness of 1 mil and likewise all values for rubber.
[3] Includes paints, varnishes, and aircraft finishes.

Method A.—The specimen is fastened over the mouth of a dish or cell (usually a crystallizing dish) containing water, or an aqueous solution of high relative vapor pressure. Loss of moisture through the specimen to a drier atmosphere is determined from successive weighings.

Method B.—As in method *A*, the specimen is fastened over the mouth of a dish or cell, which, however, contains a desiccant. The gain in weight of the cell serves to measure the amount of moisture passing through the specimen and into the cell from a moist atmosphere on the outside.

Method C.—The specimen is a septum between a moist stream of air and a dry stream of air. Moisture that passes through the septum appears as an excess weight in one moisture train or as a deficiency in the other.

Method D.—The specimen is a septum between one chamber containing saturated water vapor only and another chamber that is initially free of moisture, both chambers being evacuated before the water is admitted to the first chamber, in order to allow free diffusion of the water vapor within the apparatus. The permeability is determined either by measuring with a mercury manometer the rate at which the pressure increases in the second chamber or by weighing the transpired moisture absorbed in a desiccant suspended from a calibrated quartz-fiber spring.

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WASHINGTON, May 5, 1937.

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Defendant's Exhibit No. 292

SECTION 4

Metal Foils

by ORVILLE K. SCHMIED

Aluminum foil, because of its economic advantages and desirable properties in relation to packaging, is now dominating this industry to the extent that other metal foils such as tin, lead and zinc are being rapidly eliminated. In fact, the versatility of aluminum foil has placed this packaging medium in all classes of commercial wraps, and has now even found its way into the modern kitchen of the housewife.

Today it is no rare sight to open a refrigerator or deep-freeze cabinet and find aluminum foil being utilized as a method of food packaging in the form of home-made containers and protective covers prepared from a roll of "household" foil.

Although technical terms such as water-vapor transmission, toxicity, odor and taste absorbency may have no particular meaning to the housewife, she, as an "amateur packaging engineer," has unconsciously become well acquainted with these functional properties of aluminum foil. Accordingly, in her daily purchases, she is attracted not only by the brilliance of a foil wrap, but knows from personal experience that the product contained therein is of "freshly-packed" quality.

To keep pace with the expansion of their foil markets, the foil producers have made steady improvements in manufacturing processes. Only in the last several years has foil of greater width that 26½ in. been available. Today, aluminum foil is rolled to gauges ranging from 0.006 in. to 0.00017 in., and metal to 0.00035 in. gauge – 36½ in. wide and, in some instances, up to 54 inches.

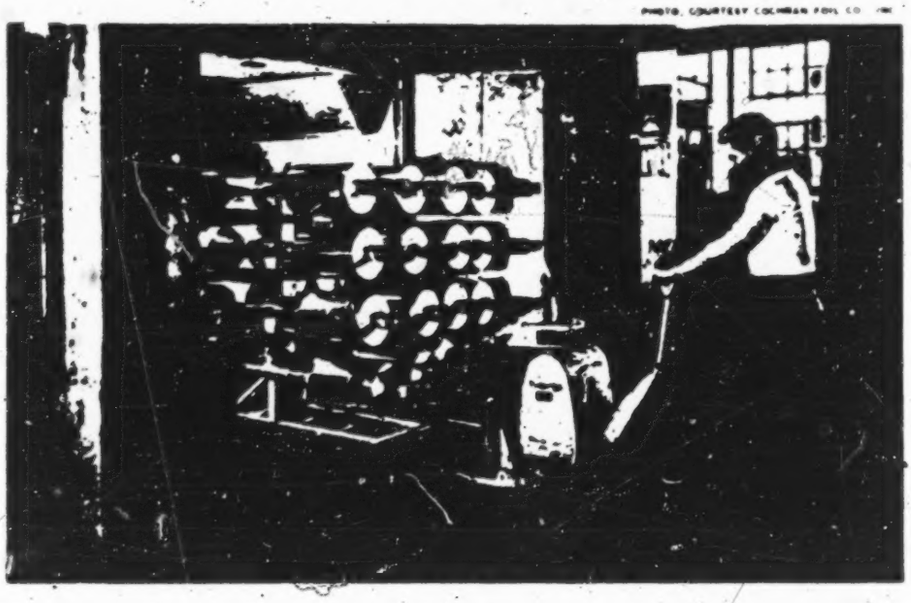
Of great importance to the foil convertor, the quality and weight per roll has been improved and increased to where 600 lb. rolls of endless foil of 0.002 in. gauge or heavier are now available.

In general, the rolling of foils is accomplished by passing the metal through pressure rolls until the desired gauge is reached. These rolls are generally of forged steel and are supported at each end with heavy duty bearings, usually of a sleeve or roller type. Also, steel housings are required to withstand the extreme tensile stresses developed due to the actions of the cold-working reduction of the metal.

The arc of contact of pressure rolls opposing each other with the foil sheet absorbing the force causes the metal to flow and the grains to elongate, thereby reducing the gauge. Reduction is further aided by an extrusion action.

Since the steel pressure rolls are exactly in parallel and the moving foil sheet is held back by tension on the unwind side and is under tension on the wind-up side, all the cold working or reduction is in the direction of rolling. This accounts for the fact that there is prac-

PHOTO, COURTESY COLUMBIAN FOIL CO.



1—After final rolling, the batch-type annealing operation is used to reduce aluminum temper and to burn off the residual rolling oils

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Properties of Metal Foils and Foil Laminations

The values in this chart were obtained from various sources and are believed to represent acceptable commercial standards. Special grades of some of these materials may be obtained whose properties differ from the values shown. Manufacturers should be consulted for additional special information or for new uses of their materials.

PROPERTIES	METAL FOILS	SPECIALIZED FOIL PRODUCTS				
	Aluminum Foil	Heat Sealing Material: Al. foil—Laminated to Paper—Laminated to Al. foil—Heat seal coating	Heat Sealing Material: Al. foil—Water resistant adhesive—Paper—Microcrystalline wax—Porous tissue	Heat Sealing Material: Cellulose acetate—Thermoplastic adhesive—Al. foil—Heat seal coating	Heat Sealing Material: Al. foil—Heat seal coating	Paper—Adhesive—Foil Vinyl film
General						
Forms available	Rolls & Sheets	Rolls—Sheets—Bags	Rolls—Sheets—Bags	Rolls—Envelopes	Rolls & Envelopes	Rolls—Sheets—Pouches
Clarity	Opaque	Opaque	Opaque	Opaque	Opaque	Opaque
Thickness range, in.	0.0003–0.005	0.003	0.0044	0.0025	0.0022	0.0032–0.0042
Maximum width, in.	45	—	—	—	—	36
Area factor, sq. in. per lb.	10,250 for 0.001 29,200 for 0.00035	5,500	6,500	5,900	5,000	4,700
Specific gravity, approx.	2.7	—	—	—	—	—
Mechanical						
Tensile strength, lb./in. TAPPI #T-404M	2–135	29	19	21	19	29
Elongation, % TAPPI #T-457M	0.4–20	2.7	2.9	2.4	6.5	—
Bursting strength (Mullen), lb./sq. in.	2–175	39	19	50	45	50
Tearing strength (Elmendorf), grams	6–480	60	15	40	100	100
Seal strength (Suter), lb./in.	—	3	1	2	6	2.0
Folding endurance (M. I. T.)	4–18	154 @ 1 Kg.	55 @ 1 Kg.	240 @ 1 Kg.	18 @ 0.5 Kg.	—
Chemical						
Water absorption in 24 hr. Immersion Test, %	Zero	—	—	—	—	—
Permeability to gases	Negligible	Negligible	Negligible	Negligible	Zero	Negligible
Water-vapor permeability (Southwick-Rhoades), grams/24 hr./100 sq. in.	Negligible	Negligible	Negligible	Negligible	Zero	Negligible
Resistance to acids	Poor to good	Poor to good	Poor to good	Poor to good	Poor to good	Fair
Resistance to alkalies	Poor to good	Poor to good	Poor to good	Poor to good	Poor to good	Fair
Resistance to greases & oils	Excellent	Excellent	Poor	Poor	Excellent	Good
Resistance to organic solvents	Excellent	Attacked by aromatic & active solvents	Poor	Attacked by aromatic & active solvents	Attacked by aromatic & active solvents	Poor
Permanence						
Resistance to heat, °F. (Limiting Temp.)	700°	120°	120°	120°	120°	150°
Resistance to cold, °F. (Limiting Temp.)	−120°	—[1]	—[1]	—[1]	—[1]	−40°
Resistance to sunlight	Excellent	Excellent	Excellent	Good	Excellent	Excellent
Dimensional change at high R.H., %	None	None	None	None	None	None
Resistance to storage	Unaffected	—	—	—	—	—
Flammability	Not combustible ordinarily	—	—	—	—	—
Suppliers	Aluminum Co. of America Cochran Foil Co. Johnson Tin Foil & Metal Co. Republic Foil & Metal Mills, Inc. Reynolds Metals Co.					

Note: There are many specialized combinations involving the use of foil with other materials. For manufacturers' names, consult the Buyers' Directory in this volume, especially under the heading "Foil, Coated, Laminated, etc."

[1] Dependent on laminating agent, coating, etc.

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tically no variation in width of the metal throughout the entire rolling process.

During the rolling operation the edges of the metal become slightly fractured which necessitates a trimming operation at various stages of reduction. The edges are again trimmed when the foil is spooled for shipment to the foil converter. When narrow width rolls are required, the foil may be respooled into narrow cuts, ranging generally from a minimum of $^{5}/_{8}$ in. wide, in $^{1}/_{16}$-in. steps.

Starting with the molten metal, the cast billets are produced first and these slabs, at an elevated temperature, are passed back and forth through a reversing mill until the metal sheet reaches the gauge satisfactory for coiling. At this stage the coils are subjected to a series of passes through rolling mills until the finished product is obtained.

Successful rolling of metal foils depends principally upon the pressure, temperature, polish or finish, crown or shape, speeds, width and diameter of the pressure rolls through which the metal passes. Each type of metal has its own individual metallurgical properties requiring specific operating conditions for each type of foil.

Aluminum acts differently from tin and lead in that it becomes work-hardened in the cold-rolling process. In this condition it is less susceptible to reduction and with its elongation lowered, difficulties in rolling metal without breaks are greatly increased.

To relieve the strain in the metal, the coils are subjected to heat in an annealing process. This procedure is repeated several times during the course of the rolling operation and varies according to the particular practice of each manufacturer.

After the last rolling pass, the foil is again in a hardened condition and generally is given a final anneal which, in addition to making the metal soft, also burns off the residual oil accumulated on the surface of the metal during the rolling operation.

Annealing of aluminum is conducted in ovens usually heated by means of electricity, gas or oil. For many years batch type ovens (metal placed in oven in batches) have been used by various foil manufacturers. Of late, continuous type ovens (metal placed through the oven in a given cycle) have been designed and are reported quite successful especially with metal in the heavier gauges.

The annealing cycle (time and temperature) varies with the type of oven used and in accordance with the gauge, width and diameter of the foil coil or roll. Work-hardened metal in the intermediate stages may receive a temperature no higher than 450 deg. F. with a short heating time. Finished foil in the final anneal may be subjected to a temperature of 750 deg. F. to insure removal of all residual oil accumulated on the surface of the metal. The heating time for this anneal may range up to 15 hours.

In the lighter gauges, aluminum becomes increasingly difficult to roll because of its low tensile strength. To offset this condition, two coils are wound into one and two sheets rolled simultaneously. The metal is then separated into individual rolls before annealing. This double rolling operation produces foil which is shiny or polished on one side and dull or mat on the other. The polished surface is obtained through the medium of the polish on the surface of the pressure rolls through which the metal passes. Thus, when two sheets are rolled simultaneously the outer surface of each, coming in contact with the pressure rolls, are polished while the two inner surfaces pressed and rubbed against each other produce the dull effect.

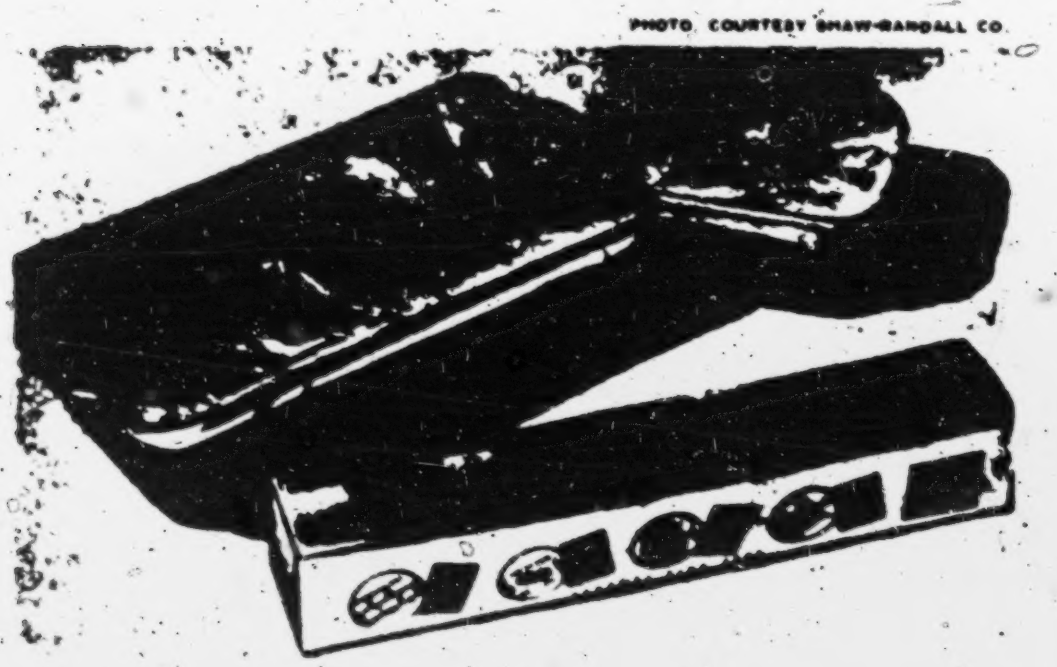
Usually aluminum foil 0.00065 in. gauge or lighter is mat-finished on one side. If specified, it can be obtained polished both sides to a gauge as light as 0.00045 inch.

The oil or lubricant used between the metal foil and the pressure rolls varies with the type of metal or alloy. Common practice in the rolling of lead and tin is the use of soapwater solutions while with aluminum, soluble oils, animal, mineral and vegetable oils are utilized.

In addition to their lubricating properties, the soap solutions and oils act as cooling agents for the pressure rolls, which become hot due to friction created in the rolling operation. Water as a cooling agent passing through the pressure rolls is used by some foil manu-

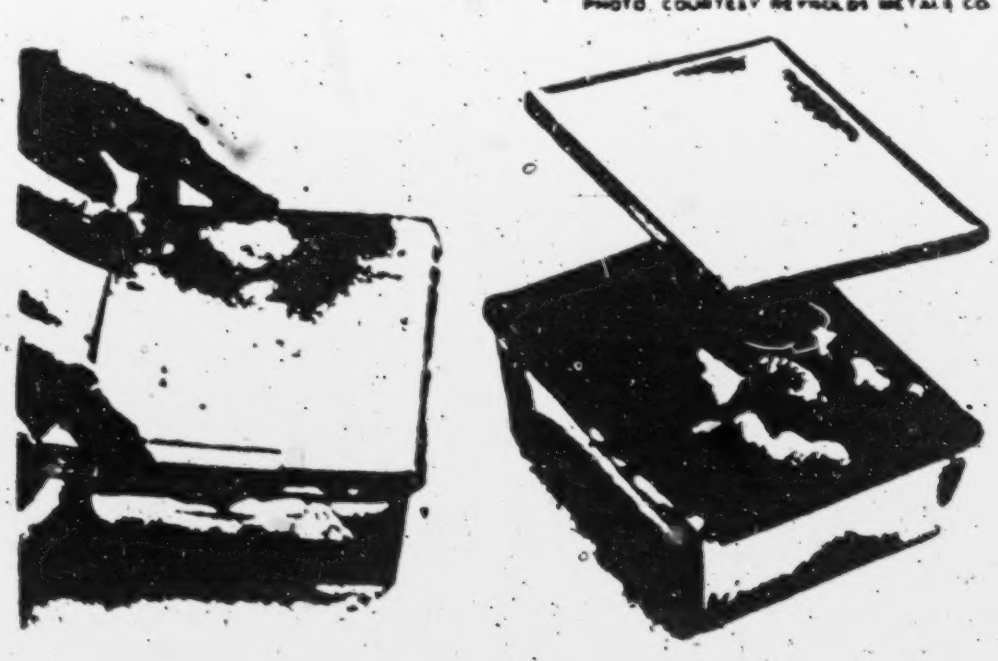
2—Individual bowl covers made of "household" foil offer excellent protection for refrigerated foods

PHOTO COURTESY SHAW-BARNDALL CO.



3—Foods can be baked, frozen, reheated in container made from single sheet of heavy gauge foil

PHOTO COURTESY REYNOLDS METALS CO.



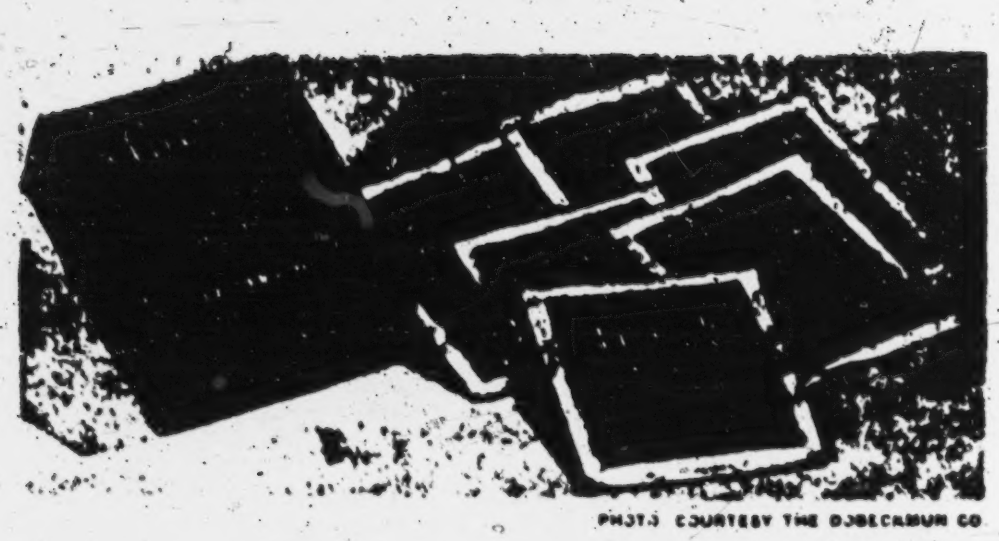


PHOTO COURTESY THE DOBECKMUN CO

4—Aluminum foil unit package is heat sealed on one side, laminated with acetate film on other

facturers during various stages of the rolling process.

The ever increasing demands of the foil converter for aluminum foil of lower gauge and greater width has been a strong factor toward improved foil mill designs. Today, 2-, 3-, and 4-high mills (the number representing the number of rolls, one above the other), designed to meet converter foil requirements, are generally used by all producers of aluminum foil.

Each type of mill has been found advantageous at particular stages of reduction. The latest development, the 4-high mill, enables the manufacturers to roll lighter gauge foil of wide widths at increased speeds, using greater gauge reduction but producing a flat, highly polished sheet so essential to the foil converter. In addition electrical controls throughout facilitate the production of a foil of more constant gauge with fewer breaks or ends.

Tandem mills, where two or more mills are operating as a unit, have been found suitable, particularly when the metal is in the heavy stages of reduction. This type of operation will become more popular along with the improved mill designs and with greater electrical control.

Since foil, essentially thin sheets of metal, varies in specific gravity in relation to different foil metals, it is evident that the selection of the proper type of foil to be used for a specific packaging purpose is quite important. Table I shows the relative covering area in square inches per pound of several common gauges of aluminum foil with a typical gauge of lead, tin and zinc as a comparison.

5—Paper side of this laminated aluminum foil frozen food wrap is waxed to facilitate heat sealing

PHOTO COURTESY MILPRINT, INC

In considering the physical and chemical properties of the metal foils in relation to the current packaging trends, it becomes quite obvious why aluminum is selected in preference to the other metals capable of being rolled as foil. Important also is the fact that aluminum can be produced and sold in comparably accepted gauges for foil converting at a lower cost than other metal foils.

Aluminum foil is water-vaporproof, nontoxic and odorless—characteristics which are generally essential in meeting packaging requirements. It is also light-proof and is unaffected by oils and fats.

Offsetting these desirable properties, other characteristics of aluminum foil tend to limit its use in the packaging field, particularly where extreme protection is desired. Most important of these are its nonsealing properties and low bursting and tearing strength, plus possibility of pinholes in lighter gauges.

These difficulties, in the main, have been eliminated by the development of foil combinations—foil combined with heat-sealing coatings, films, waxes and papers. The combined sheets possess all the excellent properties of foil plus the added protection, heat-sealing and proper packaging characteristics demanded by high-speed automatic packaging equipment.

These laminations are flexible but strong and resist action of the product as well as abuse encountered in handling and transportation. The aluminum foil is usually visible, thus taking advantage of its eye appeal, and high-speed foil printing has reached the stage where any design can be duplicated.

Foil combinations can be furnished in printed rolls, sheets, bags and cartons, or as envelopes usually sealed face-to-face on three sides. Automatic high-speed packaging equipment has been developed to handle these materials properly.

Although the general characteristics of foil and the many foil combinations may be well known generally, it is recommended that accelerated laboratory and shelf tests be conducted in conjunction with the specific product to be packaged. It is also advisable to conduct shipping tests to learn the efficiency of the packaging medium when subjected to the rigors of transportation.

TABLE I—TYPICAL PROPERTIES OF METAL FOILS

Metal	*Description*	*Density, grams per cc.*	*Thickness, in.*	*Covering area, sq. in. per lb.*
Aluminum	Commercially pure	2.7	0.0010	10,250
			0.0005	20,500
			0.00035	29,200
Lead	Commercially pure	11.3	0.0010	2,450
Tin	Commercially pure	7.3	0.0010	3,750
Zinc	Commercially pure	7.2	0.0010	3,980

M 5209

Defendant's Exhibit No. 293

Vegetable parchment

A wet strength and grease-resistant packaging material available in more than 179 variations

*by J. R. Dufford**

The discovery of vegetable parchment in 1853 came, like that of many other necessities of today, by accident. It has been attributed to W. E. Gaine, an Englishman, who is reputed to have prepared a sheet of cotton rag paper made by hand for use in demonstrating a lecture. While examining the sheet, it accidentally fell into a receptacle containing sulphuric acid. On recovering the sheet, much to his surprise, he found that the sheet of hand-made cotton rag paper had taken on an entirely new form. Instead of being a porous, absorbent and opaque sheet of paper, that which he held in his hand was translucent. By further experimenting he found that no amount of soaking in water, or even boiling, had any effect on the product of this accident.

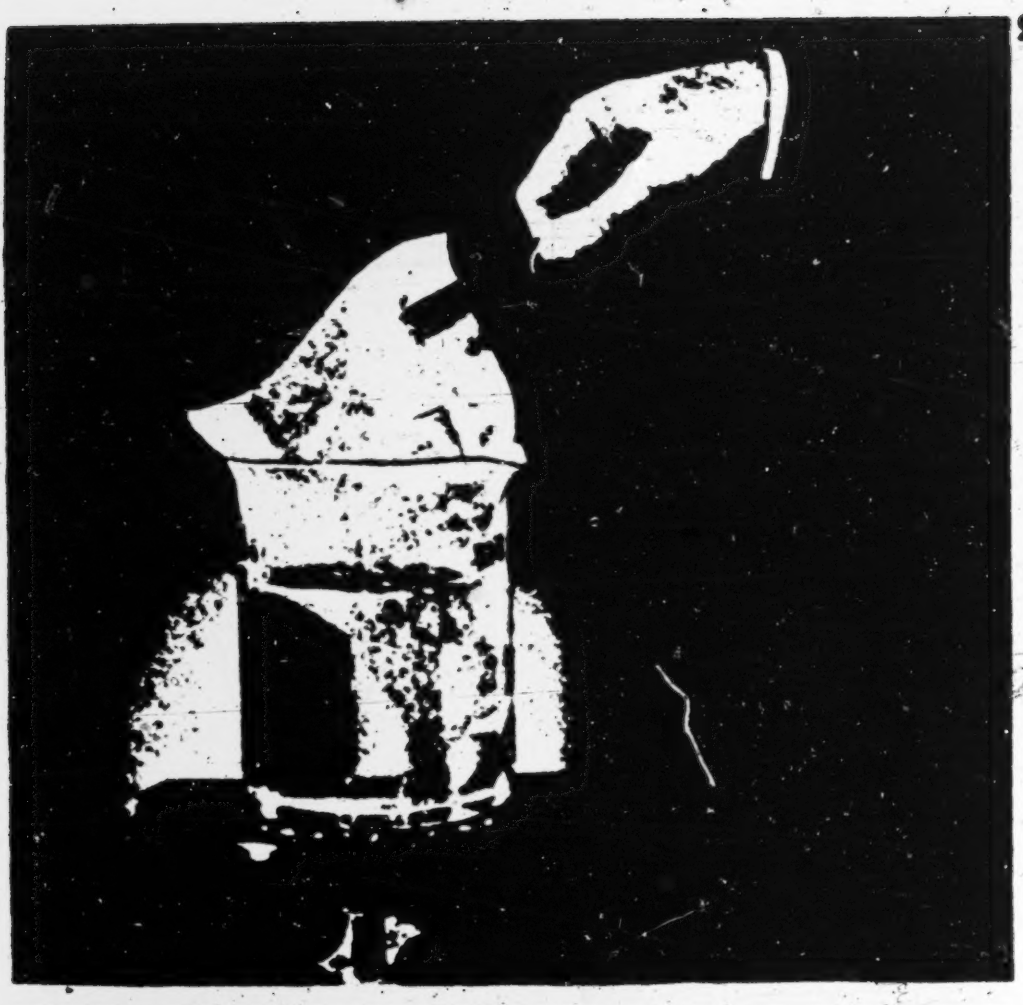
At first Gaine's Paper, as it was called, was treated as a scientific curiosity, and its extraordinary properties were described before the Royal Society of London by Bailow in the year 1857. Several years elapsed, however, before vegetable parchment was produced on a commercial scale with the establishment of a hand-made factory in London by Warren de Larue in 1861. Several years later it was produced also at Stowford Mills.

* Chief Chemist, Paterson Parchment Paper Co.

From these beginnings, the manufacture of vegetable parchment gradually spread throughout Europe. It was introduced in America in 1885 by Paterson Parchment Paper Co.

The preparation of vegetable parchment consists of two separate and distinct processes. The first is that of manufacturing the base paper called waterleaf. In order that the second process, that of parchmentizing, may be effectively conducted, it is necessary to exercise great care in the selection of raw materials entering into the waterleaf. Experience has shown that the purest cellulose produces the best results. Waterleaf for vegetable parchment differs from most papers in that it does not contain sizing or loading materials. Small quantities of either of these substances seriously impair the parchmentizing of the waterleaf to which they have been added. As the resultant finished vegetable parchment is in a large measure dependent upon the quality of the waterleaf, it is clear that the processing of the waterleaf require every care.

For many years cotton rags constituted the principal raw material for waterleaf manufacture. However, with the advent of high alpha cellulose type pulps, this material almost completely supplanted cotton rags as a raw material for water-



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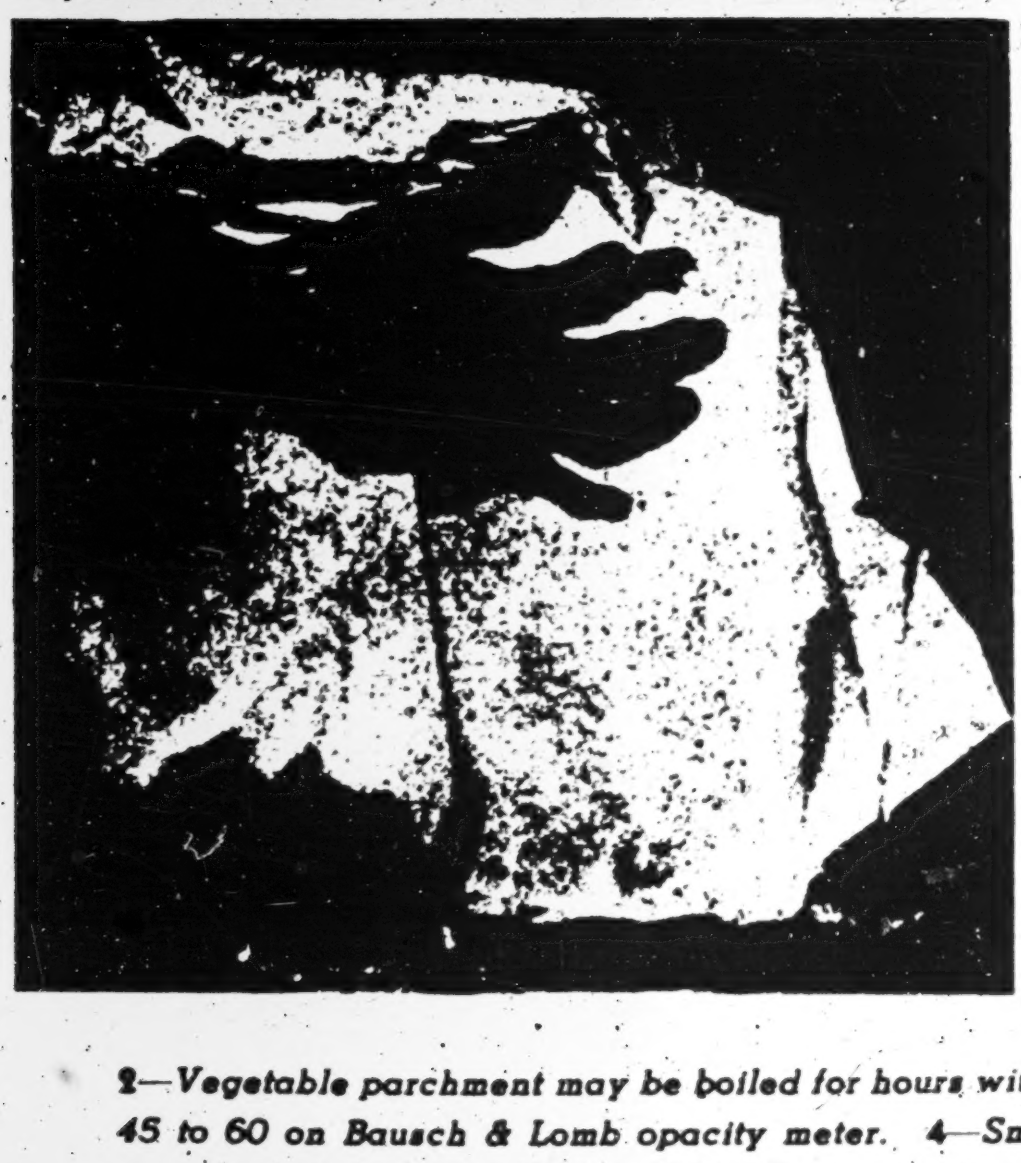

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leaf manufacture. There are still special types produced that require a very high-grade cotton rag or a high-grade cotton linter. The beating, jordaning and other refining operations are accurately controlled and measured by various methods that have been found to give waterleaf of suitable quality for parchmentizing.

Parchmentizing operation

The second process in the manufacture of vegetable parchment is that of parchmentizing. It is this process which renders the finished product so widely different from other papers. When properly prepared waterleaf is subjected to the action of sulphuric acid under suitably regulated conditions, a peculiar reaction occurs. It is based on the power of sulphuric acid to convert cellulose into a gelatinous mass, which for the want of a better name is called amyloid. When waterleaf is exposed to the action of the acid, the fibres of the paper are attacked by the acid which forms a coating or film of gelatinous cellulose, covering the fibres and filling the interstices of the sheet, cementing or bonding the fibres together into a coherent mass, which subsequently is not defibered on immersion or even boiling in water.

It might also be noted that during the parchmentizing operation, opportunity is available to alter the normal condition of the paper as regards pH or acidity and also to apply a number of substances that have been found useful to incorporate with the paper for use in special cases. On leaving the parchmentizing machine, the paper passes through a paper machine dryer and here, too, may be incorporated size tubs and various additional apparatus which are found useful in the application of tub sizing for special papers. It is at these two points—the parchmentizing operation and at the dryers—that the basic changes in the characteristics of the paper are controlled. These steps have much to do with making possible the 179 types of vegetable parchment available for practically every packaging need.

Vegetable parchments of normal manufacture have a considerable weight and size range. Weights range from 25 lbs. to 120 lbs. per ream (500 sheets size 24 by 36). Huge rolls about 7 ft. wide and of endless length can furnish sizes and shapes for almost any purpose.

Vegetable parchment may be considered as practically pure

2—Vegetable parchment may be boiled for hours without losing wet strength. 3—Normally translucent, it rates 45 to 60 on Bausch & Lomb opacity meter. 4—Smoked ham contains 39 1/2% moisture, needs insoluble and greaseproof wrapper. This is 40-lb weight. 5—Fish products are among largest users of this wrapper material.

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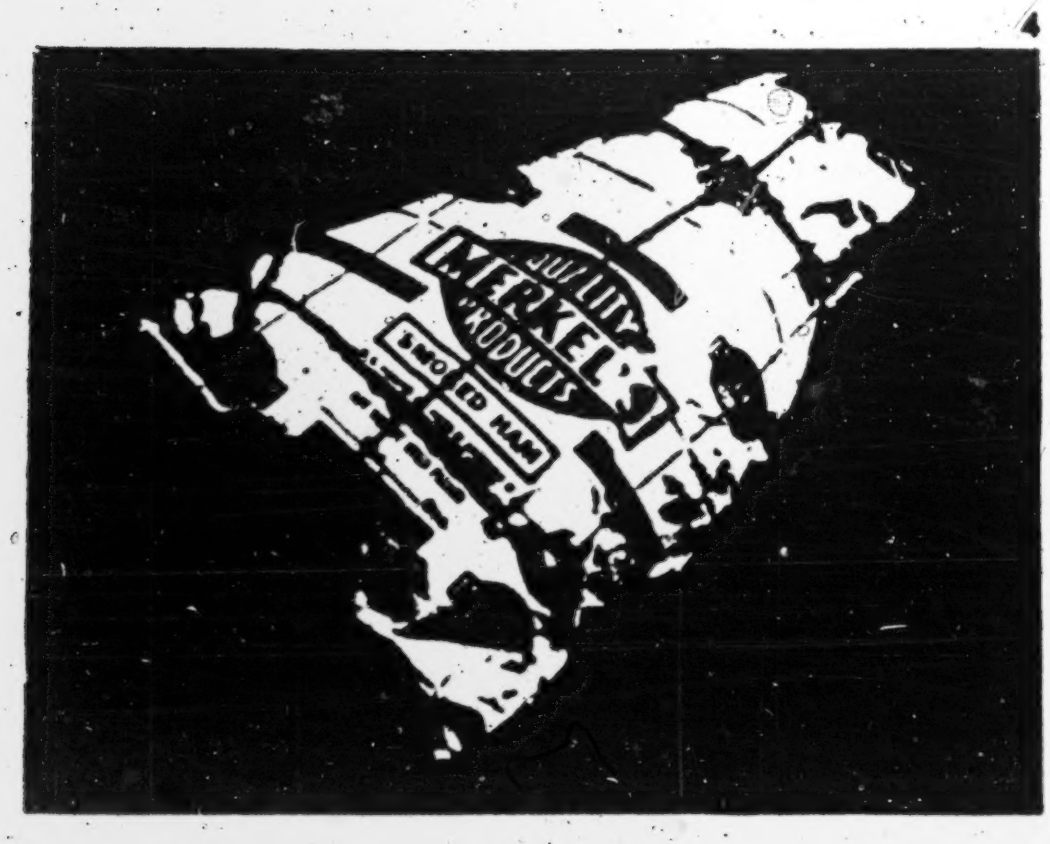

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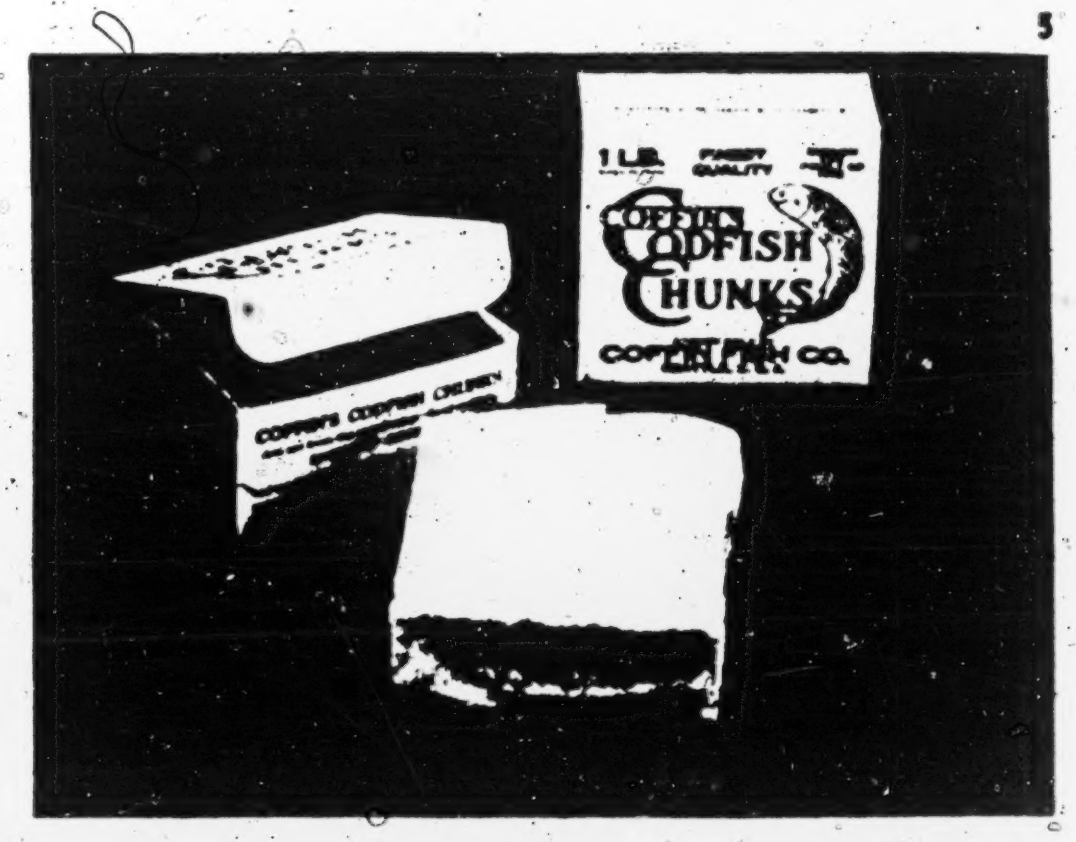
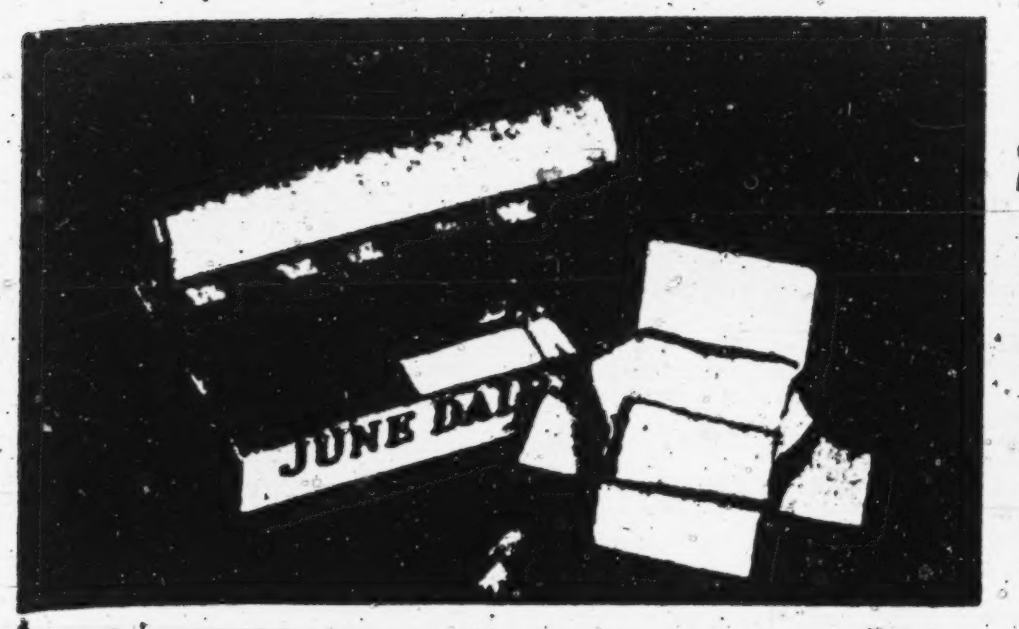
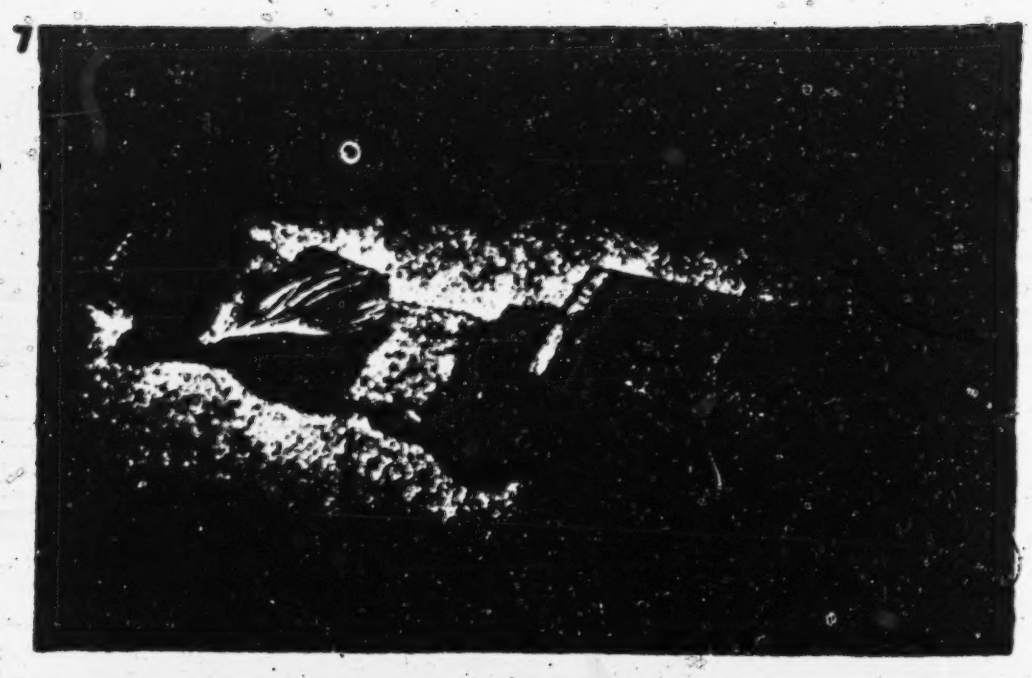
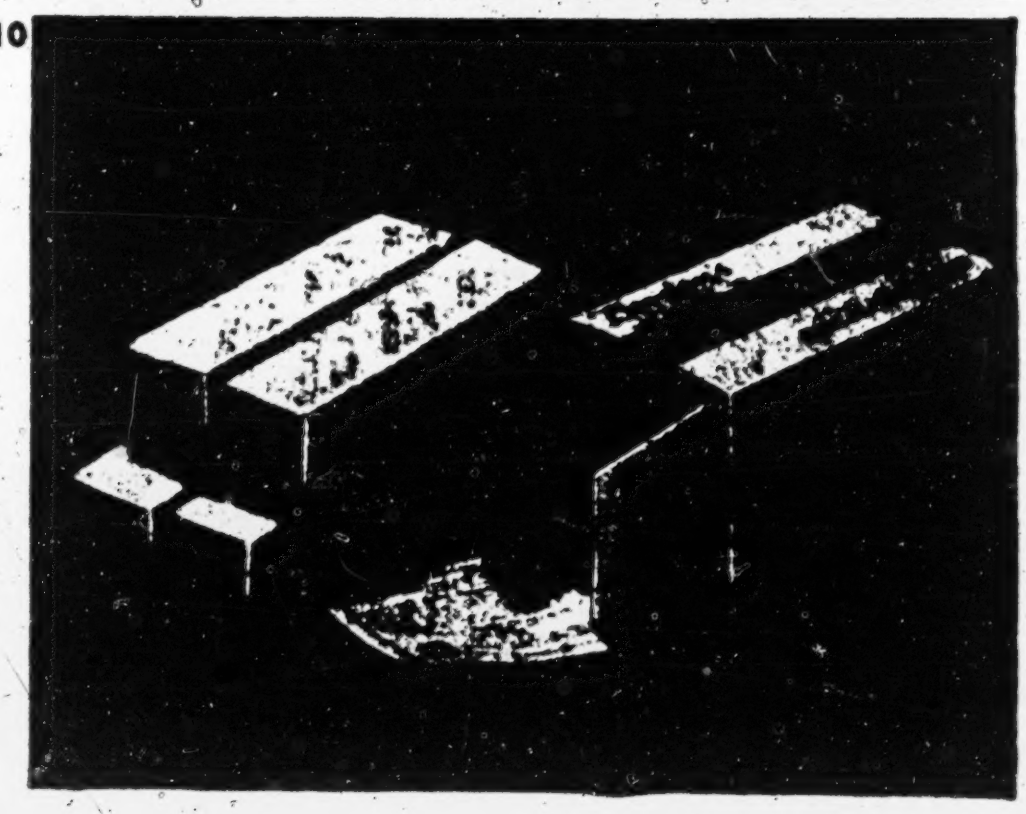








6—Inner liner of 25-lb. vegetable parchment, waxed to 29 lbs., helps seal in the freshness of cream cheese. Outer wrap is metal foil. 7—Continuous strip of 30-lb. parchment delivers sausage pats from package. 8—Hatband ribbon is packaged in rolls of vegetable parchment to protect it from oil stains. 9—Industrial products coated with protective oil can be vegetable-parchment wrapped. 10—Familiar butter wrap uses 30-lb. vegetable parchment.

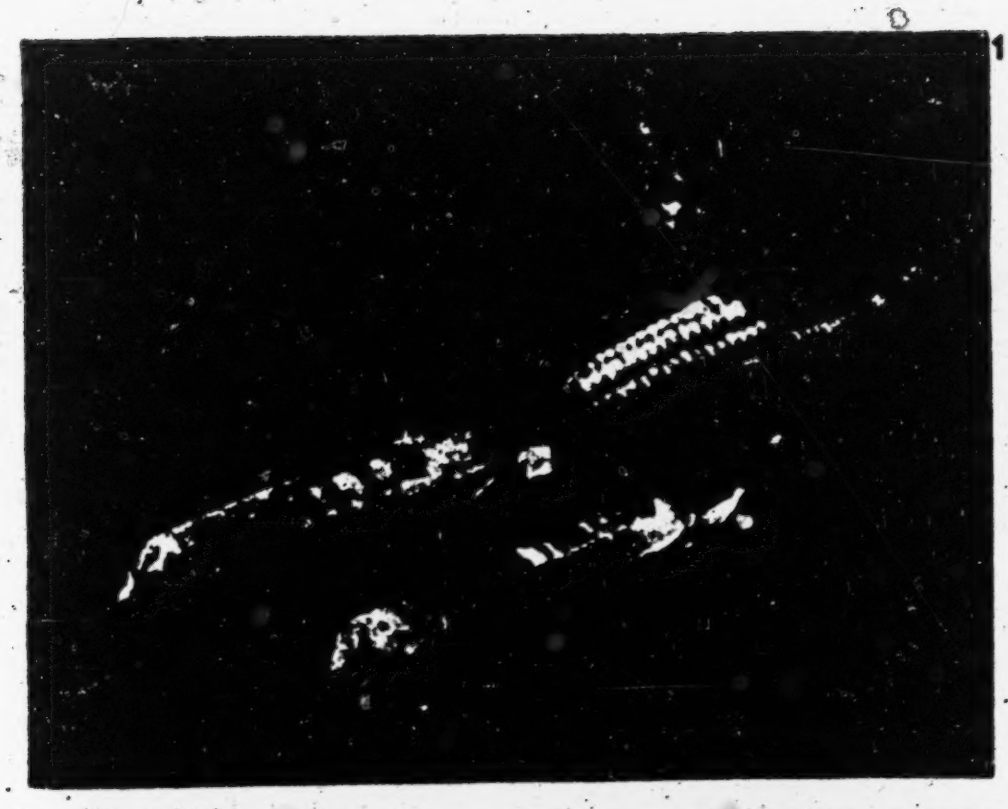
cellulose in that the action of the acid has produced substantially only a swelling action on the cellulose, leaving no reaction products such as would occur in an ordinary double decomposition chemical reaction. It has an exceedingly low ash content, in the neighborhood of 0.1 of 1%. Acidity is approximately 0.01% as SO_3, although many papers have approximately one-third this acidity. The pH ranges from 5.5 to 7.0 for normal papers in the ordinary base weight range. The acidity and the pH, however, as we have pointed out before, can be altered by treatment with alkali or any suitable material during the parchmentizing operation, and here we have a considerable degree of flexibility. Residual salts exist merely as traces. Since the sheet does not contain other materials and because it is tasteless and odorless, it is particularly adapted as a wrapper coming into direct contact with foods.

Physical test data

As one might suppose, the physical characteristics of vegetable parchment may differ widely according to the use to which the finished product is to be put. For instance, one might parchmentize in a manner to sacrifice, let us say, Mullen, in order to bring out high tear characteristics, and vice versa. To continue along this same line, one might alter the parchmentizing in order to obtain maximum greaseproofness and with a resultant product having a lower tear and possibly a lower Mullen. Experience has shown that for normal vegetable parchment there is a balance between the physical tests of the paper compared to its greaseproofness. Wet Mullen test varies according to the type of parchment and is approximately 50% to 60% of the dry Mullen valves.

We find in the Elmendorf tear test that the sulphites range from 60% to 80% of the basis weight of the sheet, whereas

EDITOR'S NOTE: *Illustrations with this article show many pre-war packages, some of which are not available under current restrictions. They serve to show trends in uses of vegetable parchment which will be resumed when restrictions are lifted.*



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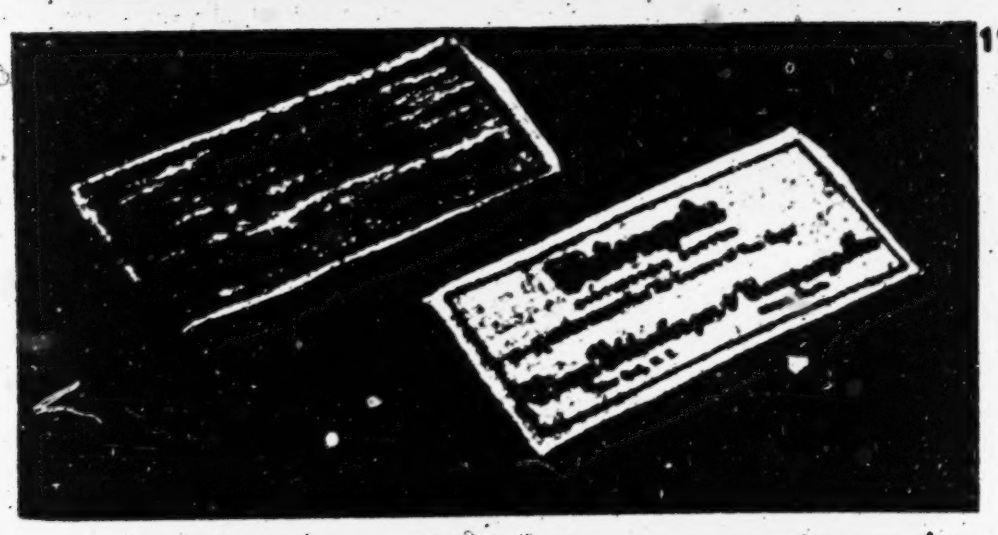

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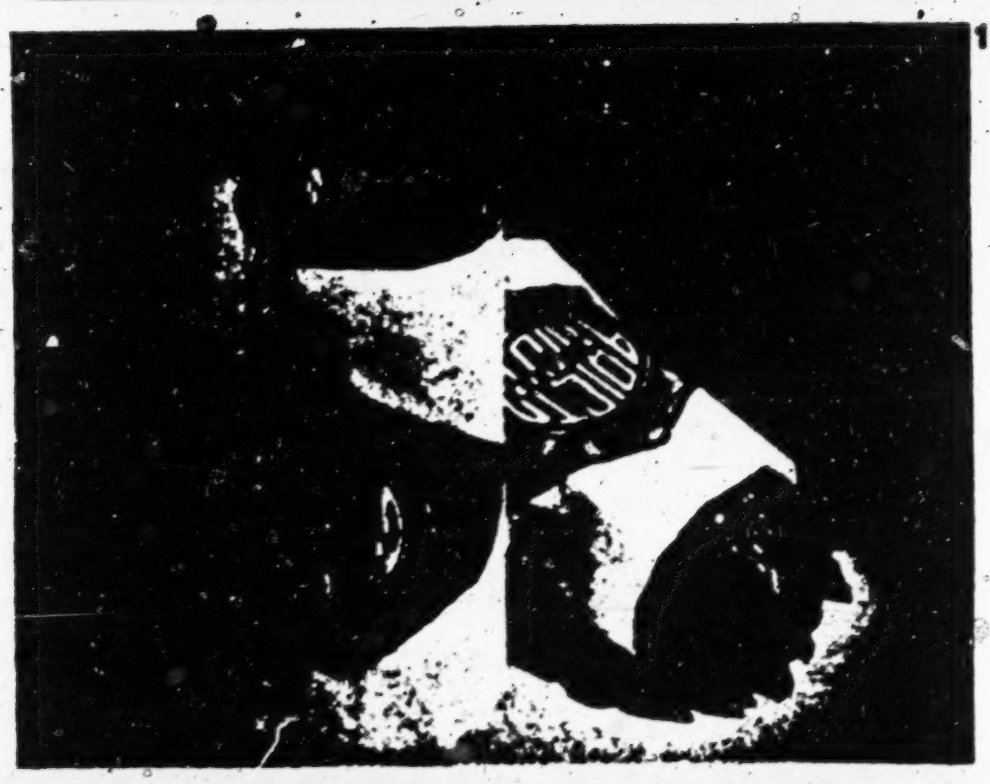

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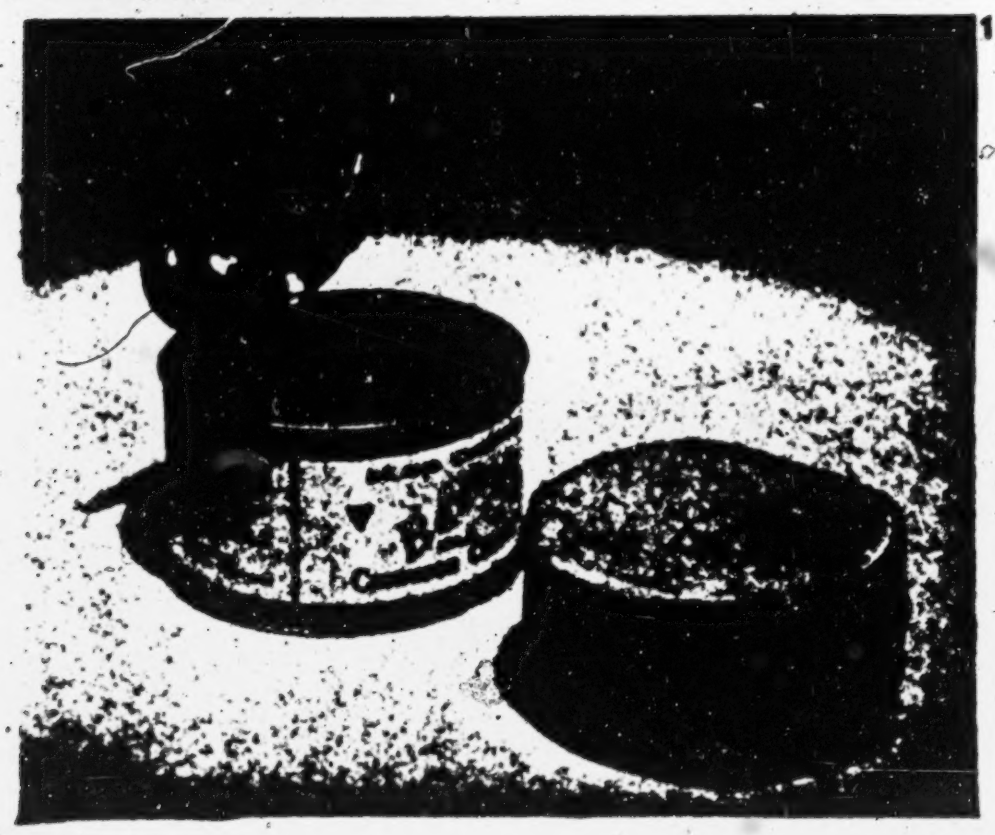

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11—Wrap for fresh-frozen corn-on-cob is 30-lb. weight. 12—Sc sd and die-stamped individual butter pats in prin' egetable parchment. 13—As a vegetable wrapper it helps keep moisture in, wont "fog up." 14—Inner 30-lb. wrapper for canned cheese protects flavor. 15—Full-color, 30-lb. box liners lend sales appeal to cut poultry.

the sulphates range from 100% to 130% of the basis weight of the sheet. In tensile strength, pound per inch width, the sulphites tested with the grain direction range from 60% to 75% on the above basis and across the grain direction from 30% to 40% of the basis weight, whereas the sulphates show 90% to 105% with the grain direction and across the grain direction 50% to 60%. It should be pointed out here that as in the case of parchmentizing to obtain various degrees of grease-proofness of the sheet, considerable variation in the physical test of the sheet may be had by altering the parchmentizing procedure.

We find that stretch figures will vary considerably also. For instance, with the grain direction, figures indicate 2% to 4% and across the grain direction approximately 4% to 15%.

Functional properties

While vegetable parchment will not disintegrate in contact with moisture or water, it has a water-vapor transmission rate in direct proportion to the treatments used in processing. When manufactured for certain uses its W.V.T.R. has been reduced to a value of 1 and lower. Here again the purpose to which the parchment is to be put must be considered, and if W.V.T.R. is not important, regular types can be used. Where the W.V.T.R. is of prime importance, special coatings can be applied to obtain almost any desired result.

One of the outstanding properties of vegetable parchment is its resistance to penetration of grease. Vegetable parchment for the packaging of greasy substances such as butter, lard, shortenings, etc., is able to withstand the penetration of greases, oils and turpentine over a very long period. The type of parchment to be used depends upon the kind of product package. Average tests would not be of value, for the range of performance of some 179 types of vegetable parchment naturally vary so greatly that a discussion of this subject would be lengthy.

When vegetable parchment is of a sufficiently heavy weight, it is substantially impervious to the passage of air.

Vegetable parchment wets readily with water and will absorb upwards of 100% of its weight, but due to the very high

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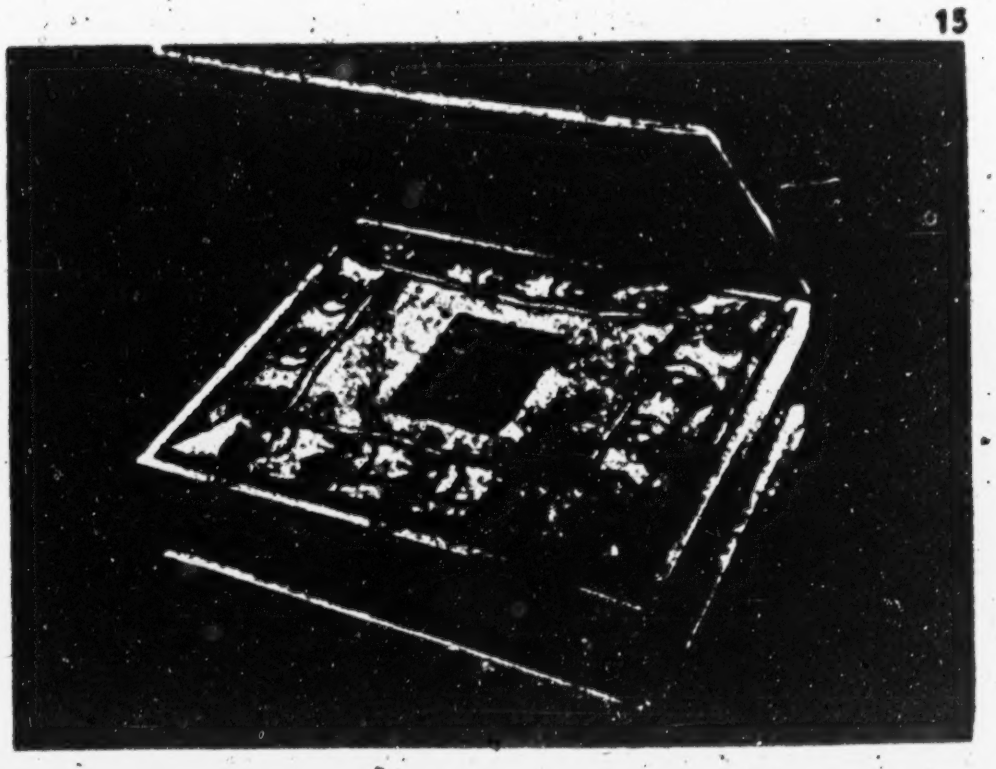

degree of wet strength that it has due to the parchmentizing action, it will not disintegrate in contact with water. Vegetable parchment may be boiled for many hours without losing wet strength and this is a very important feature in the packaging of moist or wet food products. It may also be boiled in weak alkaline solutions, saturated salt solutions, without losing its wet strength.

Vegetable parchment is translucent and on the Bausch & Lomb opacity meter will read approximately 45 to 60. Here again, however, we have a fairly controllable variable in that the translucency of the parchment may be altered by the degree to which it is parchmentized, or by adding judicious amounts of opaque materials to the waterleaf, or by coating or sizing the parchment. The end use of the parchment would be the controlling factor.

The density or apparent specific gravity of vegetable parchment varies from about 0.78 to 0.95. The area in square feet per pound of parchment may be readily calculated by the following procedure:

$$\text{Area in sq. ft. per lb.} = \frac{3{,}000}{\text{Basis Wt.}} \text{ (500 sheets 24 by 36)}$$

Vegetable parchment, because of its inherent characteristics, high wet strength and the retention of this wet strength under very severe use conditions, and the fact that it is very grease and oil resistant, odorless and tasteless, is a very desirable paper for use in combination with other packaging materials. For instance, lamination to transparent cellulose sheets, lamination to metal foils, etc.

Vegetable parchment varies in price according to type selected for the use to which it is to be put. It has always been in popular demand as its cost is low when compared with materials which give the same full packaging protection—i.e., wet strength and grease-resistance. Vegetable parchment can be beautifully printed in one to four colors with color-fast inks. The design of the wrapper is controlled purely by the imagination and ingenuity of the artist commissioned to create the package.

Vegetable parchment provides (*Continued on page 152*)

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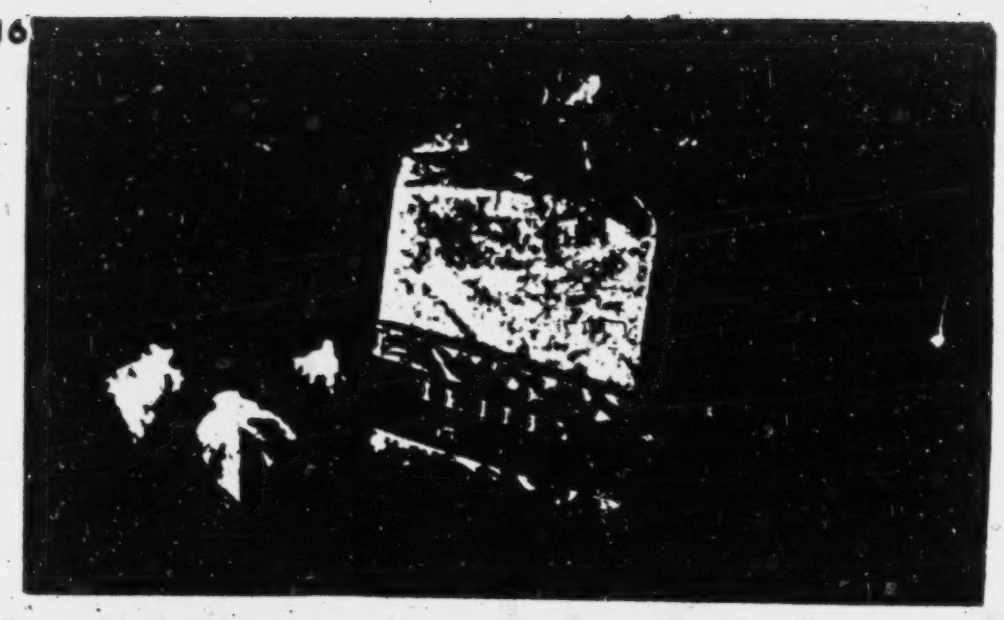

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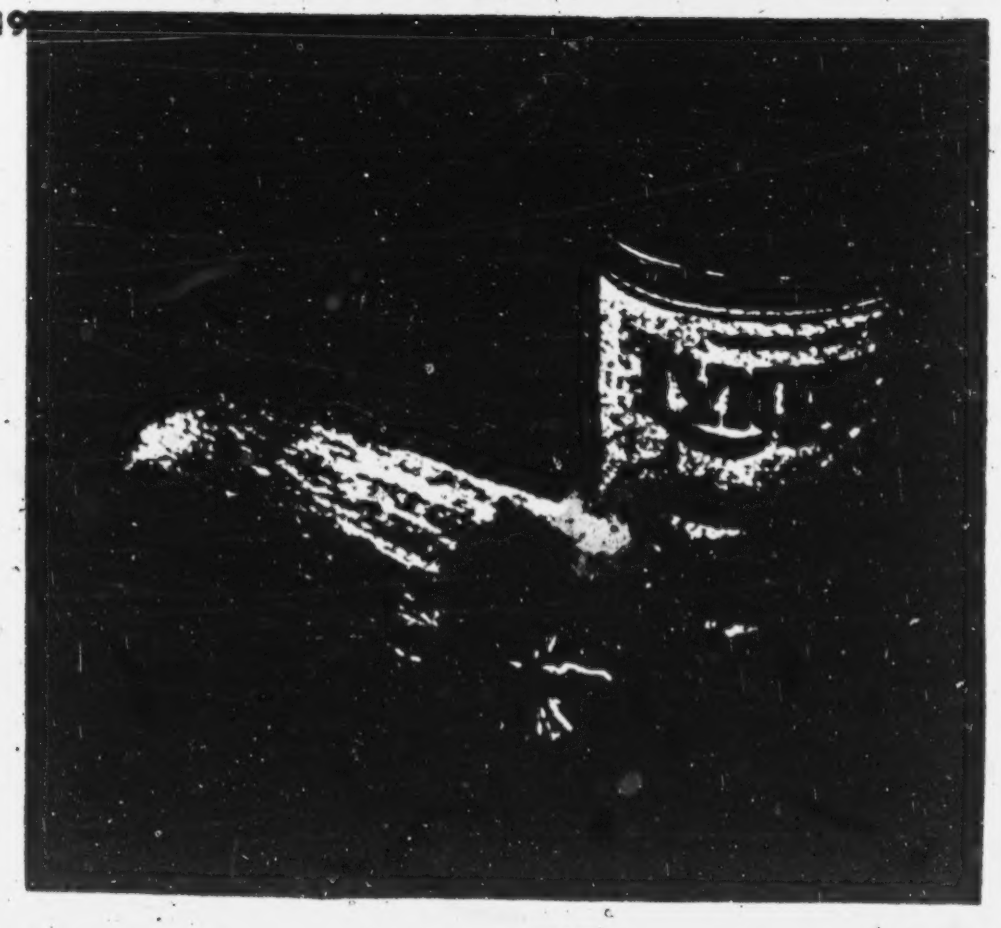

16—Extra protection to tea in cloth bags is provided by 30-lb. container bag. 17—Vegetable parchment is of value for inner wrap for shortening. 18—Keeps canned meats from contact with metal. 19—Wrap for canned tamales is 30-lb. creped vegetable parchment. 20—Individual 30-lb. wraps for canned herring. 21—Protective hood for milk bottle caps.

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Candy letter

(*Continued from page 97*) product because it pleases the public, is a prestige-builder and brings store traffic. For these reasons, the stores are actively promoting the package. Some, in fact, appear to be spending more on advertising than they can hope to realize with the limited amount of stocks that can be supplied to them.

At the present time, an assembly line of 170 workers, most of them women, is employed at the job of producing the candy letters. The boxes are filled as they travel along a conveyor belt. An electrically operated machine folds and seals the cartons in one operation. A larger and faster sealing device, specially designed for the firm, which is expected to do the work of seven girls, is now being installed and is expected to boost production considerably above the present level of 200 gross a day.

Credits: Outer and inner cartons, Joseph Zuckerman, Inc., New York; design, R.A.F. Rice, New York.

Vegetable parchment

(*Continued from page 87*) wrapper protection where its high wet strength, insolubility, resistance to disintegration and greaseproofness are essential. Coupled with the virtues of being odorless and tasteless, it has for many years been the almost indispensable wrapper for butter. These same characteristics have provided necessary protection for packaging of oleo margarine lard and vegetable shortening; for wrapping of fresh and frozen fish and poultry, and fresh, smoked and processed meats.

Vegetables have provided wide opportunity for use of vegetable parchment as bands, wrapping and lining of iced and un-iced shipping containers.

Vegetable parchment has been combined with other materials where the inherent qualities of the material provide characteristics necessary for satisfactory and efficient packaging. Frequently, it has been employed as a supporting membrane for transparent films, foil and the like.

Vegetable parchment has been laminated to transparent cellulose films for the wrapping of cream cheese. Satisfactory performance is reported.

Laminated to itself, or to transparent cellulose films, it has occasionally been employed for lining the walls of fibreboard food containers.

A special type is used as gasket material on fibre oil containers. Combined with glassine, vegetable parchment was fabricated into Ration C packages.

Special types have been manufactured for use in the rubber industry as separators for unvulcanized or semi-vulcanized rubber, and for use on tire repair stocks, etc.

A special type of vegetable parchment has been in use for several years in the wool spinning industry, where it has proved itself valuable in the manufacture of wool yarns, replacing materials that formerly were imported and at the outbreak of the war became unavailable.

For more than 50 years the biggest job of vegetable parchment has been packaging and protecting foods. War needs resulted in a new appreciation of what this remarkable paper can do and today it has many important war assignments. Most of them cannot be talked about, but here are a few examples: In the manufacture of gas masks, in the manufacture of methyl methacrylate, mold liners, Ration C wrapper map tracing papers, ointment box liners, snuff box liner special photographic purposes, liners for coffee bags, bu shortening package liners, liners for motor oil containers, an as a dialyzing membrane.

Because vegetable parchment is both insoluble and grea resisting, it is readily used as a liner for foods packed in can These liners keep the contents from touching the metal an prevent discoloration, thereby adding considerably to th sales appeal.

With the advent of the cold storage locker plant, a pe fected type of this material has filled another need. Th modern locker plant is interested in maintaining a high qual ity of service and as long a preservation of food and flavor a possible.

The medical profession uses vegetable parchment for wrap ping surgical instruments and dressings to be sterilized in th autoclave. It takes scorching-hot live steam. It does no cause stain on the articles enclosed in it. Also, it can b easily marked to identify the article in the package without extra equipment.

In surgical operations sterilized vegetable parchment i used to protect tissues from injury from retractors. As a protective covering for wet dressings, it is an economical substitute for oiled silk or rubber. It is often used by nurses to make an emergency ice pack because it is strong and pliable when wet.

Future trends

The fact that vegetable parchment is grease resisting, has high wet strength and will not disintegrate even on boiling has made it a vital aid in solving many difficult problems. Used alone as a wrapper, the material meets many exacting requirements, and with the addition of special treatments and surface applications, it can do jobs never before thought possible for paper.

Almost every day new uses and applications of this versatile product are being found. Industrial applications, far afield of the normal food protection job it has done for many years, are increasing and as availability of pulps becomes more normal, the family group of 179 types is expected to grow.

Pillsbury redesigns

(*Continued from page 69*) are welcome in this period when shopping is time-consuming for all concerned.

Another thing to be considered is that the changeover is practically painless just now. The manufacturers and wholesalers will not be plagued by returns; grocers will not be tempted to try to return stock with the old labels because their competitors may be carrying the newly packaged merchandise. In this era of short stocks, nothing stays overlong on the grocers' shelves, so the old packages will be absorbed normally and the new ones will filter through automatically, without undue disturbance to anyone.

As the war draws to a close, we can expect many large companies to undertake the redesign of their packages. The Pillsbury project, which is, in a sense, a trail-blazer, is of particular interest just now.

Credits: Designs by Jim Nash, New York; labels by American Colortype Co., Chicago.

Defendant's Exhibit No. 294

Glassine . . . its improved packaging properties

by C. W. Hoffman and E. G. Penn*

For more than 35 years the glassine industry has been supplying its products—glassine and greaseproof papers and their modifications—for the packaging of innumerable products. The history of glassine spans that of packaging itself.

The versatility of glassine was never more clearly shown than during the last four years when, in common with many other products of the paper mills in this country, glassine was called upon to help remedy the serious shortage in packaging materials caused by the loss of tinplate, metal, foils, rubber products, etc. That the industry accepted this challenge and did a good job is, of course, a matter of record. Now the glassine and greaseproof industry is busily engaged in consolidating its developments into glassine packaging for "tomorrow."

The usefulness of glassine and its derivatives in meeting a wide variety of packaging protection problems has long been recognized. Various formulations may be used wherever there are considerations of oils and greases, flavors and aromas, moisture loss or gain, or contamination by vapor or bacterial infection after packaging. Glassine has advantages wherever mechanical operation is a factor, or where transparency, heat-seal or attractive printing is desirable.

The basic qualities of glassine are derived from a combination of specially made pulp, a particular kind of manufacturing equipment and an experienced skill in the use of that process which produces a sheet suitable for establishing continuity of film, as in the use of waxes, lacquers, laminates, offering water-vapor protection with minimum cost. (Table I.)

The term "hydration" which so often is used in connection with glassine is the result of a mechanical treatment or beating of the fibre. Water is driven into the cellular structure until the fibres have become nearly gelatinous and the formation of these fibres with other cellulosic products of hydration tends to approach a continuous film of cellulose. The presence of the water in the sheet resists oil and grease penetration. After the paper is formed and dried on the paper machine, it is redampened and super-calendered under tremendous pressure and heat. The paper then reaches its maximum density, having a high surface finish and considerable transparency and at this point it is called glassine.

If the super-calendering is omitted, the paper is not as smooth and not as transparent although the other inherent qualities are there. In this form it is known as greaseproof paper. Various general properties of glassine and greaseproof papers are given in Table II.

TABLE I—AVERAGE WATER-VAPOR TRANSMISSION RATES
WAXED, COATED, LAMINATED GLASSINE
(FLAT SAMPLES, GFWVT CABINET)

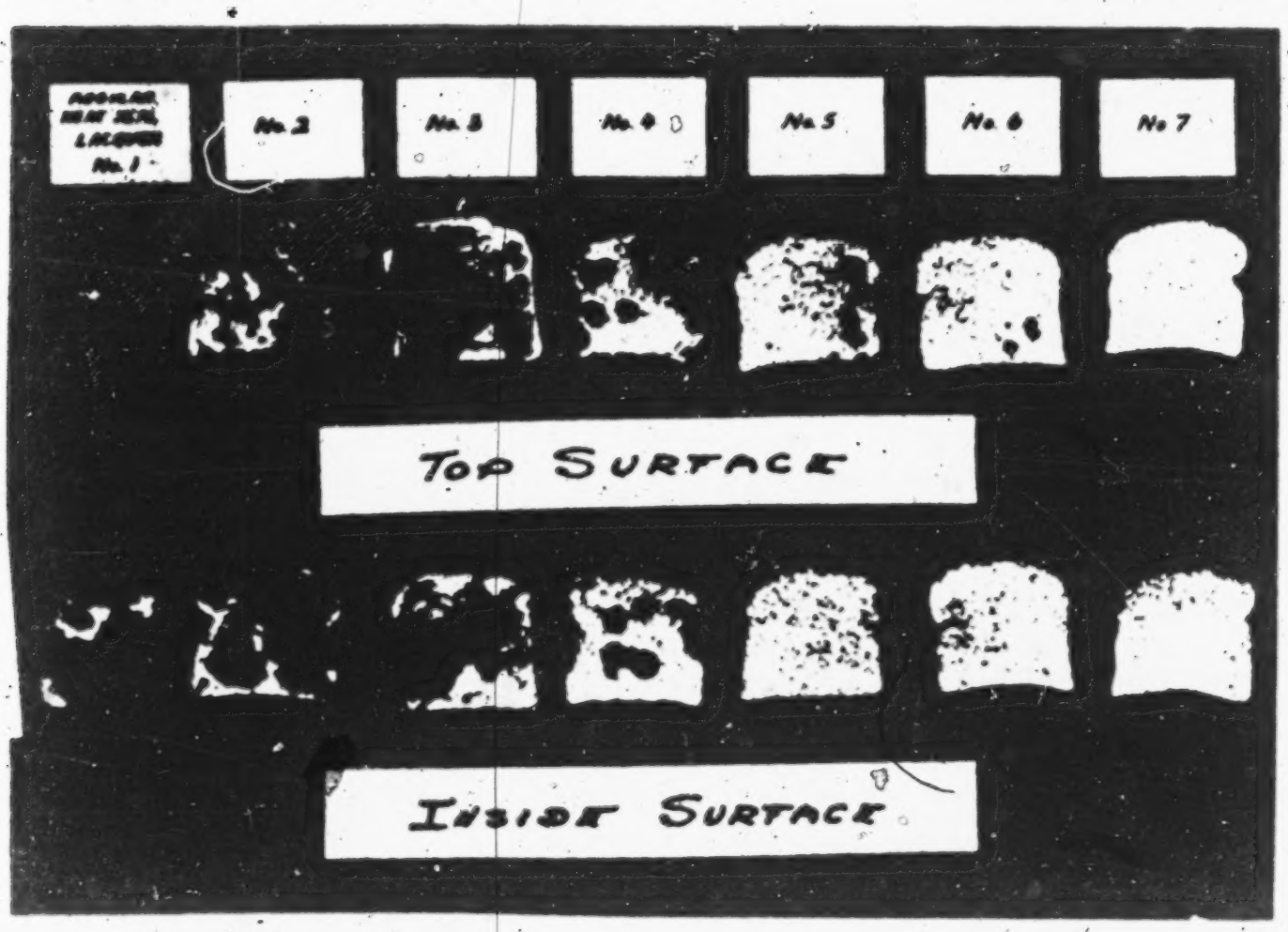
Grades	*Grams/100 sq. in. 24 hrs.*
Laminated glassine (waxy laminant)	0.40 to 0.70
Laminated glassine, waxed both sides	0.05 to 0.15
Waxed glassine, single-ply waxed both sides	0.10 to 0.30
Lacquered glassine, adhesive seal, both sides coated	0.15 to 0.25[1]
Lacquered glassine, heat seal, both sides coated	0.10 to 0.40[1]
Lacquered, laminated glassine, both sides coated	0.10 to 0.15[1]

[1]Depending on type of lacquer.

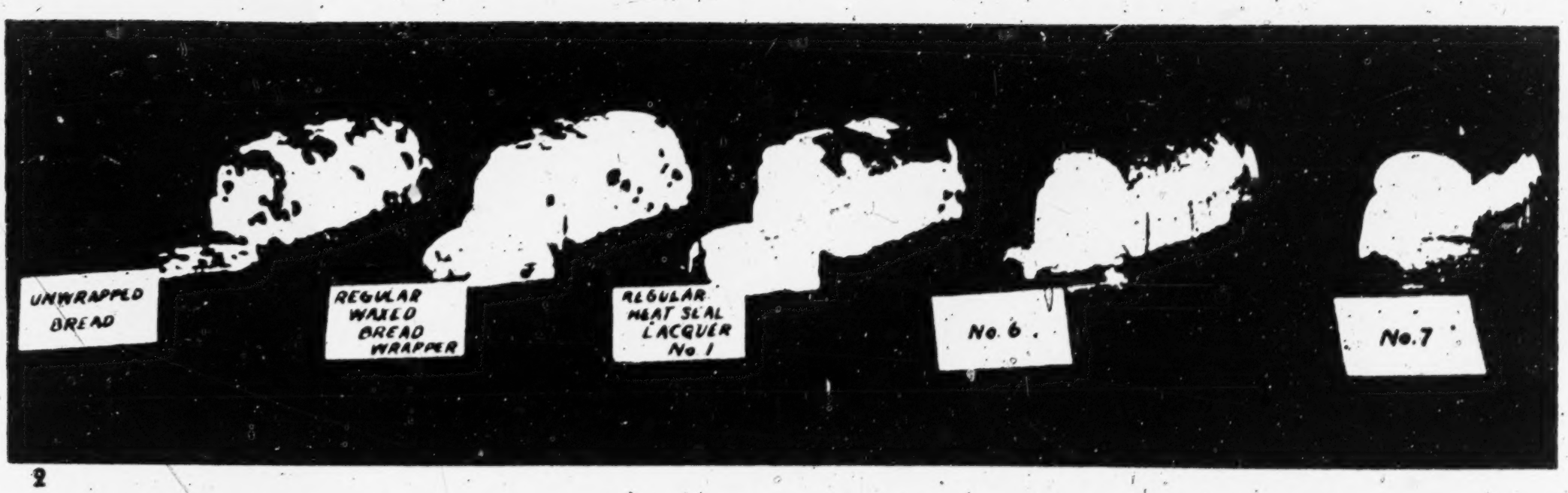
Wet-strength glassine

One of the most recent outstanding additions to the list of valuable functional qualities of glassine and greaseproof paper

* Both of the Riegel Paper Corp., New York.



1—Results of test of antimycotic coatings on glassine bread wrappers. Two slices of bread were wrapped in each of seven papers, including one with regular heat-seal lacquer coating (far left). Wrapped slices were stored at 100 deg. F. and 100% R.H. for one week. Note complete absence of mold on samples shown at the extreme right.



2

2—This test sought to determine whether protectiveness of treated papers had diminished through evaporation of anti-mycotic agents. Test papers were left exposed for 3 weeks since first test. Whole loaves were used. From left: unwrapped bread; regular waxed wrapper; regular heat-seal lacquer glassine, and Nos. 6 and 7, anti-mycotic papers from first test. Test period and conditions were same. Note absence of mold on 6 and 7.

is the development of wet strength characteristics. This is the ability of the material to retain a high degree of its original dry strength when in contact with water. This has brought an entirely new series of glassine papers to the packaging fields. Their greaseproofness and water-vaporproofness when waxed, coated and laminated make them suitable for the packaging of frozen food, dairy products, meats, etc.

In the past, various additives have been used to impart so-called wet strength to paper. However, recent discoveries have given to the paper industry synthetic resins having unusual properties in the wet-strengthening of glassine. One type of resin may be applied to the fibre before the formation of the sheet and attaches itself to the fibre as a colloid. Another type of resin can be either incorporated in the beater or impregnated in the sheet after the sheet is formed but only partially dried. These resins in the subsequent drying period then polymerize to an insolubility, binding the fibres together even after long immersion and soaking with water. These developments have provided the paper industry with a material which, in addition to giving wet-strength characteristics, will improve the general toughness of the paper under normal conditions and will not adversely affect pliability. This is important to the obtaining of maximum production in operation on packaging and converting equipment. These properties are now being offered by the glassine manufacturers when wet-strengthness is useful or a basic requirement.

In general, glassine so treated, when tested by standard tensile testing equipment after a two-hour immersion period at

TABLE II GENERAL PROPERTIES OF GLASSINE AND GREASEPROOF PAPERS

	Greaseproof papers	*Glassine papers*	*Waxed glassine*	*Laminated glassine*	*Lacquered glassine*
			General Protective Functions		
Greaseproofness	Yes	Yes	Yes	Yes	Yes
Flavor retention	Yes	Yes	Yes	Yes	Yes
Wet strength	Available	Available	Available	Available	Available
Resistance to gas transmission	Fair	Fair	Good	Good	Good
Water - vaporproofness	No	No	Yes	Yes	Yes
			General Package Forming Qualities		
Pliability, softness	Yes—in plasticized grades	Yes—in plasticized grades	Yes—in plasticized grades	Excellent	Yes—in plasticized grades
Glue seal	Required	Required	Can be used	Required	Can be used
Heat seal	No	No	Yes but of limited strength	No	Yes, very positive
			General Adaptability to Visual Functions		
Transparency	No	Satisfactory	Good	Fair	Good
Smooth surface	No	Yes	Yes	Yes	Yes
High gloss surface	No	No	Yes; but will smudge	No	Yes
Gloss printing available	No, but prints well	Yes	Yes	Yes	Yes
Colors, transparent	No	Yes	Yes	Yes	Yes
Colors, opaque	Yes	Yes	Yes	Yes	Yes

room temperature, will show from 25 to 40% retention of its original dry strength on basic glassine or greaseproof and approximately 50% or better upon laminating.

In considering the application of these new glassine products it is well again to distinguish between three similar sounding but decidedly different qualities. These are as follows:

1. *Water vaporproofness*—This is the ability of certain barriers to resist, in varying degree according to kind and make-up, the transmission of water in its vapor phase—*no liquid water* being involved. An example is in the drying out of packaged bread or tobacco.
2. *Water-resistance*—This is the ability of the material to shed water; that is, to repel water without becoming wet. Common examples are oil-skin raincoats, which, while quite waterproof, may not have appreciable ability to keep water vapor from passing through their structures.
3. *Wet strength*—This is the quality whereby certain materials retain an appreciable portion of their dry strength even when they are thoroughly soaked with water. These materials do not necessarily have either water-vaporproofness or waterproofness, although in the case of wet-strength glassine both may be added.

For example, consider the packaging of frozen vegetables such as peas or spinach in comparison with the packaging of frozen fruits-in-syrup. In the former case, the vegetables are blanched in hot water or steam to stop the enzymatic action and they are wet with small amounts of water as they are packaged to go to the freezer. While not in great quantities, the amount of water is enough to weaken standard paper and through subsequent mechanical failures to cause loss of the special protective qualities for which it is employed. The addition of wet strength obviates this hazard as well as failures caused by moisture condensation on the package due to temperature changes. Such water is not shed; it literally wets the paper but causes no harm.

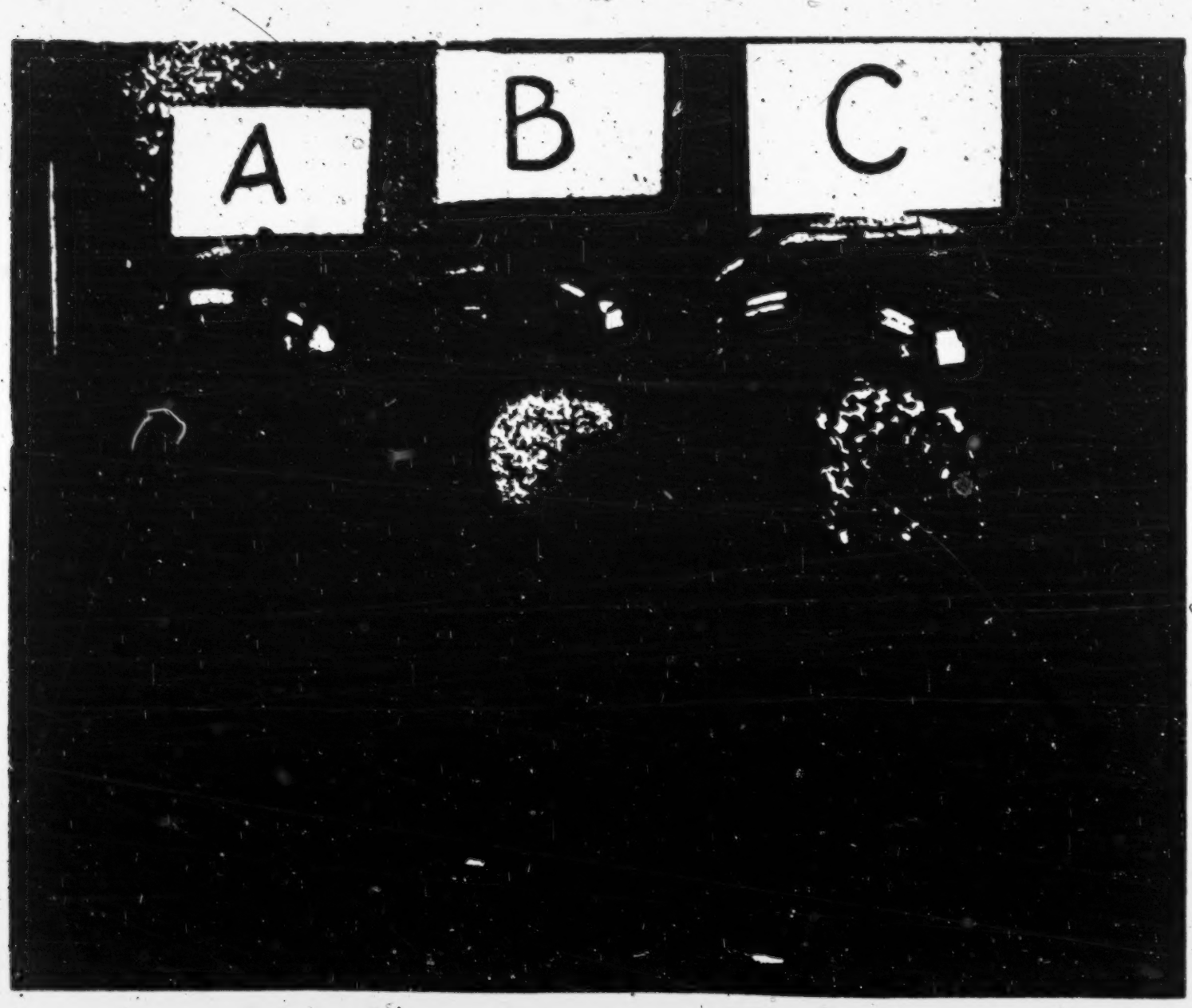
In the case of the frozen fruits-in-syrup pack, there is a considerable quantity of water present and the barrier must repel that water without itself becoming wet. Therefore, in addition to wet strength, such paper also must be waterproof. Thus wet-strength laminated glassine is recommended. It has a history of success as a water-vaporproof wet-strength lining for frozen vegetable packaging. However, unless treated with a subsequent wax or lacquer coating, it is not recommended as a waterproof lining for frozen fruits even though it may be water-vaporproof and have wet strength.

A great deal of research is being conducted in the glassine industry to improve the general strength and folding characteristics of glassine and greaseproof paper. One outstanding development in the last year, and one which shows great promise for the future, is the development of pulp for glassine manufacture involving chemical treatment and a secondary mechanical refining to complete the pulping action. This process promises to yield pulp retaining chemical characteristics which offer good hydrating properties, giving large increases in strength with the retention of greaseproof properties. In addition, research is going forward on other types of fibre, all with the ultimate aim of improving the general strength and folding characteristics of glassine and greaseproof paper. While this superior strength glassine is not yet commercially available, the future promises a glassine with added strength involving all the protective qualities now available. One application for a sheet of this type would be a tight-wrap for general overwrap packaging.

Anti-mycotic glassine

New developments are taking place involving the use of mold-inhibiting agents, which promise to find widespread use in the packaging of food products such as bread, dairy and meat products; also for soap products, textiles and many other products subject to mold or mildew.

The economic loss suffered through the action of the hun-



3—*This test showed that mold inhibition is due to vaporization and not to direct contact with bread. Bell jars were installed in high-humidity room at 100 deg. F. and 90–95% R.H. Each jar contained three slices of bread. Watch glass containing one drop of anti-mycotic agent was placed under tripod in "A"; piece of bread wrapped with the agent in "B"; nothing in "C". Photographed after one week, bread in "A" and "B" jars were completely devoid of mold, "C" was covered with various molds.*

dreds of genera of fungi and molds upon the products of many varied industries is well known. The methods of prevention of mold and mycotic growth differ widely, depending upon the nature of the product to be protected and upon the way in which the product is manufactured and distributed. One of the most promising materials at present is compatible with nitrocellulose lacquer, requiring only small quantities of the material, as the resulting action is dependent upon its vaporization. This material, used in connection with certain packaging papers, promises to increase the shelf life of some products and result in lower returns of rejected foodstuffs.

During the last year considerable work has been done with a commercial lacquer-coated glassine widely used for the packaging of breads. In accompanying photographs (Figs. 1, 2 and 3) may be seen a demonstration of what may be accomplished through the use of an anti-mycotic agent in coated glassines for the packaging of bread.

Laminated glassine

There being no single flexible packaging material known to resist all of Nature's processes, it was quite logical to combine materials with known resistance to certain elements by means of lamination. Thus, laminated glassine was developed some time ago to provide a basic material with added resistance to water-vapor transmission; it is widely used in packaging today. The needs of wartime packaging prompted further research on lamination and resulted in tremendous progress.

One result is three-ply laminated glassine, which offers excellent resistance to water-vapor, increased strength and more pliability than is found in other forms of the material. With the addition of heat-seal coatings, these combinations provide material for products needing extreme protection.

Much progress has been made in the lamination of glassine to materials of a foreign structure; there are many new and practical combinations. For instance, the qualities offered by a combination of aluminum foil laminated to coated glassine are more like those of rigid packaging materials than flexible ones. Other combinations include glassine laminated to cellophane, acetate, board stock, and many special non-glassine papers. New and versatile waxes, hot melts and emulsions now in the development stage will result in still further laminations of glassine and greaseproof papers with properties long sought to prolong shelf life of many packaged products.

Coated glassine

As mentioned previously, the smooth, non-porous surface of glassine provides a very suitable base for all types of lacquer coatings. Such coatings include organic colloids such as nitrocellulose, resins, cyclized rubber, etc., which require organic solvents as vehicles for application; also, the counterparts of these, which melt at a sufficiently low temperature to be thermoplastically applied. These coatings, although expensive in themselves, can be applied to glassine in sufficiently small quantities to produce an economical packaging material.

The normally good transparency of plain glassine is greatly improved by such coatings and work is being done to improve still further the transparency of coated glassine.

In addition to heat-sealing qualities, extremely low water-vapor transmission rates are achieved. Within a short time, the return of natural rubber will make available many of the prewar coatings derived from rubber as well as many new ones developed in the laboratories during the war. Such coatings promise even greater protective qualities when applied to glassine; in combination with a stronger glassine,

4

4—Above, a locker bag lined with wet-strength laminated glassine; below, a frozen-food carton with wet-strength greaseproof glassine laminated directly to inner surface.

5

5—Medical items such as the individual Band-Aids use cellulose glassine. The Sunshine cracker-tray and Hershey cocoa container are glassine to make a greaseproof lined board. The same material lines a fibre can for Nestle.

they will find widespread use in many of the packaging fields.

Other new coatings for glassine include hot melts and brighter metallics for decorative as well as protective use.

Embossed and colored glassine

New pastel shades in glassine papers will offer something of interest to the trade for fancy package liners, greeting cards, envelope liners, etc. Metallic-coated and embossed glassine will blossom in new patterns for decorative appeal.

The production of colored glassine was practically eliminated during the war, but with resumption of manufacture, more brilliant shades will be produced with greater permanence to light and with greater resistance to mild alkalis and acids. Aniline and rotogravure printing on glassine has kept pace with the trend toward eye appeal through beautiful design, and promises to become more economical than was previously thought possible.

Other developments in glassine include the improvement of resistance to alkali for wrapping of soap and soap products.

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Defendant's Exhibit No. 295

WAXED PAPERS

CONSTRUCTION

Waxed papers include a group of papers that have been treated in varying degrees with wax or paraffin. Various base stocks are used, but usually they are bleached sulphite papers ranging in weight from 18 to 40 lbs. (24 x 36—500), or specially sized tissues ranging in weight from 8 to 17 lbs. (24 x 36—480). These papers may be sized or unsized, although generally a slack or light sizing with a good high finish is used to permit proper adherence of the paraffin without too great absorption. Vegetable parchment, glassine and kraft are also used as the base stocks for certain types of waxed papers.

The ultimate purpose for which the waxed paper is to be used, as a general rule, determines the type and weight of the base paper, whether it is sized, slack sized or unsized, and also the kind and amount of waxing.

The wax most frequently used is paraffin. It is tasteless and odorless, and has a melting point ranging from 125 to 140 degrees Fahrenheit.

The amount of waxing used, as mentioned above, is determined by the specific use for which the paper is made. For example, florists waxed tissue will contain about 3 pounds of wax to a ream of 9-pound base paper; a 16 or 18-pound sulphite sheet, to be used as a household waxed paper, will usually contain from 5 to 8 pounds of waxing.

Waxed papers may be transparent or opaque. Opaque papers are used as protective wrapping on products which are affected by exposure to light, or they may be specified because they give a better background for printing and design.

Waxed papers are classified in three general groups:

(1) SELF-SEALING WAXED PAPER, a surface-coated type, is produced by dipping the paper in paraffin and then passing it through squeeze rolls to remove excess paraffin. The usual ratio of paraffin to paper is about one-third paraffin to two-thirds paper, and the wax used has a melting point of 135 to 140 degrees. Self-sealing, surface-coated papers afford a high degree of protection. When used for bread wrappers or similar purposes, they are sealed by applying heat.

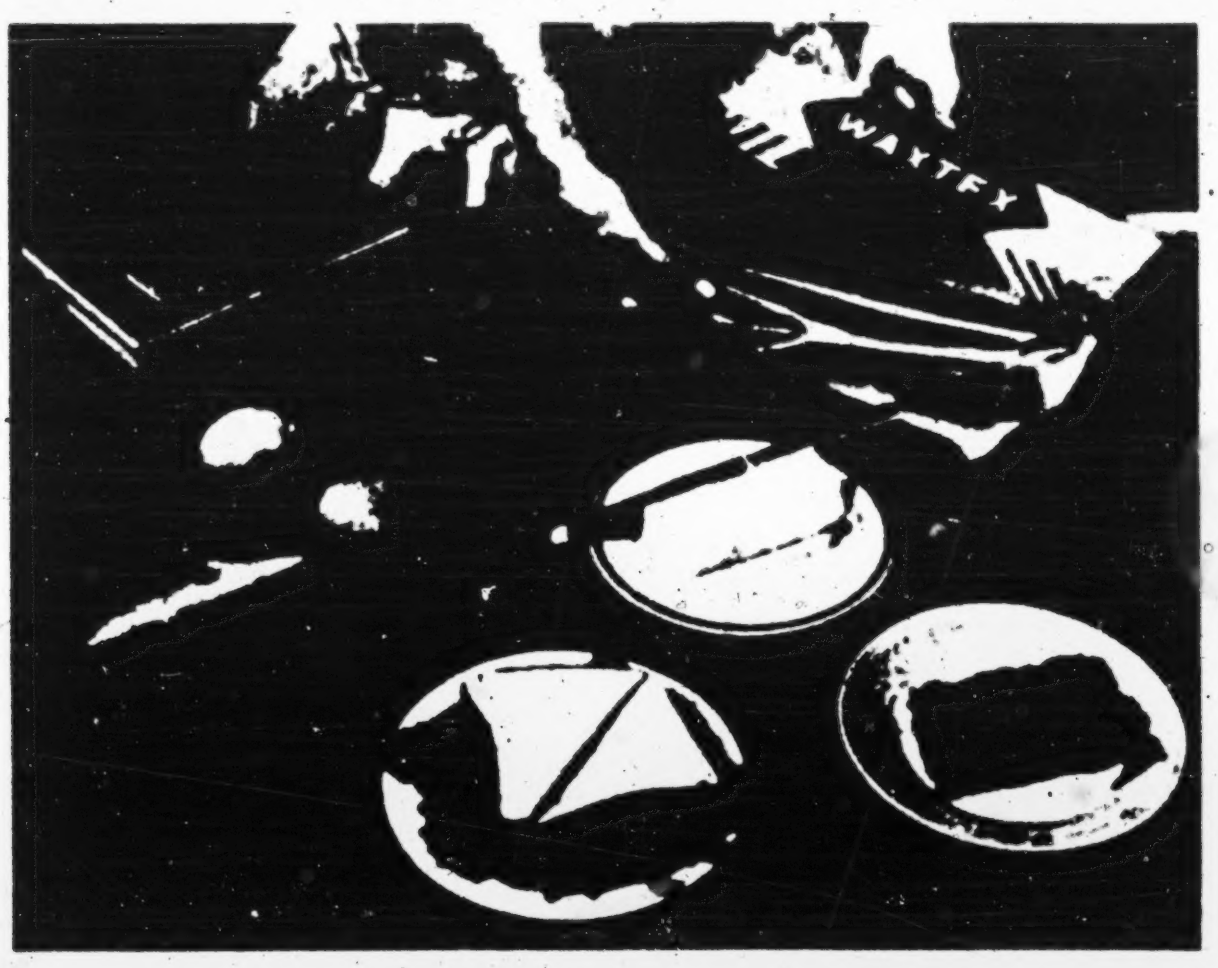
(2) DRY WAXED PAPERS are those in which the wax is driven into the sheet (impregnated) so that there is no surface coating. In the manufacturing process, the base paper passes through rolls, one of which revolves in a bath of melted paraffin or other wax. The paper then goes through heated squeeze rolls which force the wax into it. Because there is practically no wax left on the surface, the paper feels dry to the touch.

(3) WET WAXED PAPERS are similar to the self-sealing type, the difference being that the quantity of paraffin used for the surface coating is not as great, and also that it has a lower melting point, from 125 to 135 degrees. Wet waxed papers are made by passing the base paper through a bath of wax, after which it immediately passes through chilled rolls or cold water which chill the wax, causing it to set more rapidly and give a high gloss. A high finish paper is essential, as such a finish permits a good surface film of wax with little penetration into the paper.

The Waxed Paper Institute, composed of American waxed paper manufacturers, has recently embarked upon a cooperative advertising campaign, the objectives of which are to bring to the attention of consumers in every part of the country the importance of waxed paper as a "protector" of foods and an indispensable aid to good housekeeping and good nutrition.

The slogan — "Waxed Paper Protects Freshness" — has been adopted as the spearhead of the campaign, and it will appear in advertisements, publicity stories, on letterheads, labels, shipping containers and cartons of all waxed paper manufacturers.

Bread wrapped in waxed paper is almost universally favored by housewives, as it indicates that the product is clean and untouched. Courtesy Marathon Corporation.



An important use for household waxed paper is in wrapping sandwiches and other foods for workers' and school children's lunches. Courtesy Marathon Corporation.

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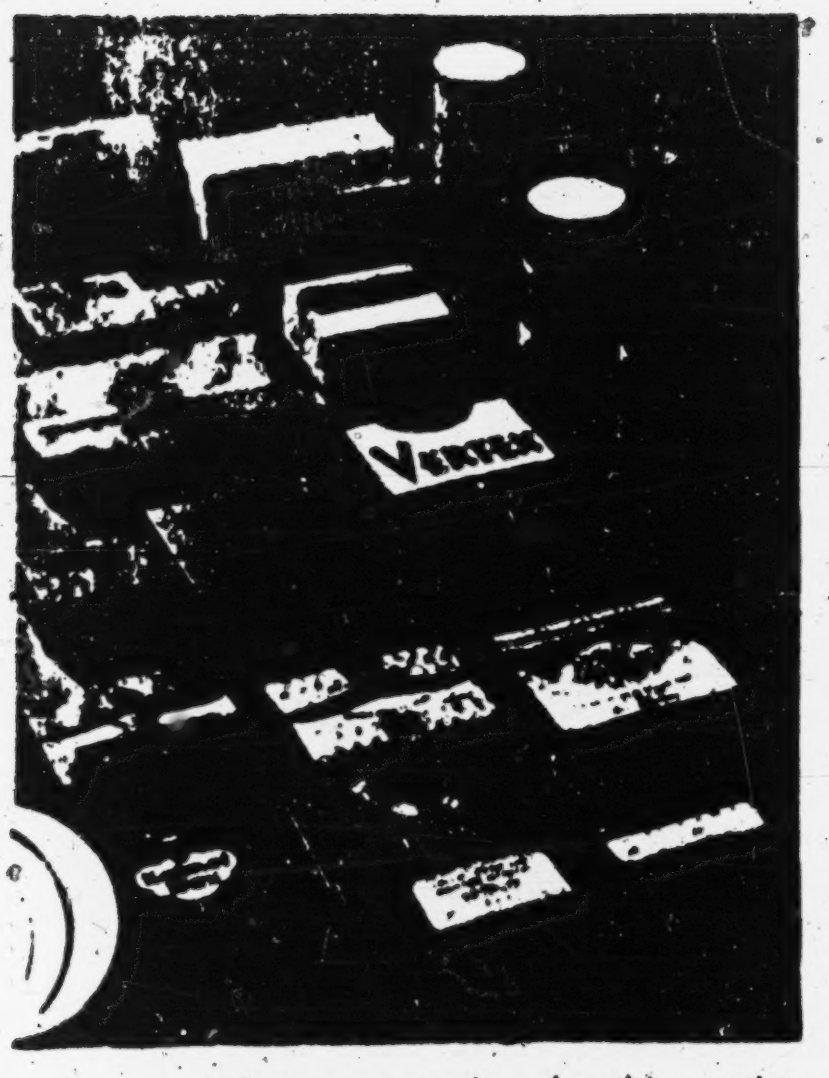

Delicatessen paper is packaged in a variety of forms -- in pony rolls, in 500-sheet packages, both flat and interfolded, for counter use or for transfer to dispensers, and in dispensing boxes of 500 or 1,000-sheet capacities. Shown here are a group of packages and dispensers available from the various producers in the field.

Waxed papers are grease-resistant and moisture-vapor proof. Taken as a group, they have numerous applications and have a wide variety of uses where a sanitary or protective wrapping is required. And, while their uses are largely in connection with food products, they are by no means limited to that field.

The most commonly known grades of waxed papers are:

HOUSEHOLD WAXED PAPERS

Household waxed papers are wet waxed papers, the base stocks ranging from an 18 lb. tissue to a 30 lb. bleached sulphite stock. The protective qualities of the paper are determined by the weight of the base stock and the amount of wax applied.

Principal uses: For wrapping of family lunches for workmen or school children; for wrapping left-overs and for covering bowls of food stored in refrigerators; for use in connection with home baking and cooking.

Sizes and packaging: The great bulk of household waxed paper is packaged in handy, continuous rolls in cutter boxes. The rolls, wound on paperboard cores, are generally 12 inches wide and are supplied in three lengths—125, 150 and 250 feet, the 125-foot roll being the most popular.

A small percentage of household waxed papers are available in 12 x 13½-inch sheets, put up in rolls containing from 30 to 100 sheets or in envelopes or folders containing from 30 to 100 sheets.

WAXED GLASSINE

Waxed glassine, as its name implies, is glassine that has been given a coating of wax. The greaseproof quality and high finish of glassine cause the wax to lay on the surface of the sheet, giving a highly protective film. Waxing increases the transparency of glassine and adds moisture-proofness which glassine lacks.

Principal uses: For bags and box liners to hold drug or medicinal preparations; for wrapping foods where transparency, greaseproof and moisture-proof qualities are desired; as a liner or separate wrap in packaging foods that contain oils, grease, or moisture.

Sheet sizes: Sheet sizes are usually 24 x 36, 24 x 40, 30 x 40 and 36 x 48 inches.

WAXED KRAFT

Waxed kraft, made for purposes which require strength as well as protective qualities, is kraft paper coated with wax on one or both sides. Basis weights of heavier papers range from 35 to 40 lbs. (24 x 36—500); lighter weights are from 16 to 30 lbs.

Principal uses: By meat and food packers and industrial users where a strong moisture-proof wrapping is required.

Sizes: Heavier weights are furnished in sheets 9 x 12, 12 x 18, 18 x 24, 24 x 33, 24 x 36 and 30 x 36 inches in size, and in rolls 9, 12, 15, 18, 20, 24, 36 and 39 inches wide. Lighter weights are generally supplied in 24 x 36 inch sheets or sheets which can be cut from that size.

DELICATESSEN WAX

Delicatessen wax is a dry waxed paper used by delicatessens, grocery stores and meat markets as a utility sheet—to handle meat, as a scale sheet in weighing meat and protecting the scale, and as an innerwrapper for meats and soft foods to retain the moisture in the food and to prevent the outer wrapper from becoming water or grease-soaked. The base paper is commonly made from bleached sulphite pulp; this is given a dry waxed treatment of about 10 to 20 percent of its basis weight, which is generally 21 lbs. (24 x 36—500). Some manufacturers, by special processing, impart the quality of wet strength to their delicatessen waxed paper. This naturally helps to build added protection to the paper.

Principal uses: As a utility paper by grocers, delicatessens, and butchers.

Sizes and packaging: Delicatessen wax is put up in a variety of forms: in pony rolls, 6, 7½, 9 and 12 inches wide, all rolls 3 inches in diameter; in 500-sheet packages, both flat and interfolded, for use in dispensers, sheet sizes available being 6 x 10¾, 8 x 10¾, 10 x 10¾, 12 x 10¾ and 15 x 10¾ inches; in dispensing boxes, 500 or 1000-count, usually 8 x 11 and 9 x 12-inch sheets.

INTERFOLDED WAXED TISSUE

is a wet waxed tissue, 13 lbs. basis weight (24 x 36—480), and is furnished in packages of 500 sheets, interfolded.

Principal uses: The smaller sized sheets of interfolded waxed tissue are used as a lift sheet in bakeries, to protect icings, etc.; the larger sheets are used in restaurants, luncheonettes and fountains as sandwich wrappers.

Sizes: In sheets, 6 x 10¾, 8 x 10¾, 10 x 10¾, 12 x 10¾ and 15 x 10¾ inches.

BREAD WRAPPERS

Bread wrappers are usually of a self-sealing type of waxed paper, the base stock of which is a bleached sulphite paper. Weights range from 20 to 30 lbs. (24 x 36—500) before waxing, and from 30 to 40 lbs. after waxing.

Broadly speaking, there are two types of bread wrappers, transparent and opaque. Opacity is usually secured by treatment with a pigment coating, or by incorporating pigments while the paper is being made. Titanium dioxide and other similar agents are sometimes added to increase opacity of the paper. The paper is usually super-calendered to produce a high finish and density which tends to give a surface film of wax with very little penetration.

Bread wrappers are available plain or printed with decorative designs and trade names, the printing being done before the paper is waxed.

Principal use: For wrapping bread.

Sizes and packaging: Sheets for hand-wrapping, ranging in size from 14 x 16 to 18 x 24 inches, are put up in 1,000-count packages. Rolls for automatic wrapping machines are from 12 to 20 inches in width, 10 inches in diameter, with 2½ or 3-inch cores.

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FLORISTS WAXED PAPER

Florists waxed paper is a white or green waxed tissue, paraffined to make it more transparent and to give better protection against moisture in flowers.

Principal uses: As a liner for floral boxes and as a liner sheet for heavier wrapping papers covering flowers, wreaths and plants.

Sizes: In sheets, usually 24 x 36 inches in size.

TWISTING TISSUE (CANDY)

Twisting tissue, also known as "kiss paper," is one of the many types of waxed papers produced specifically for use in the confectionery field. The base paper is commonly produced from bleached or unbleached sulphite or sulphate pulps, made on the cylinder machine so that the grain runs one way and so that the paper will not break when twisted. Basis weights usually range from 12 to 18 lbs. (24 x 36—480), and the paper is available in white and colors.

Principal uses: For wrapping taffy apples, popcorn balls, and such candies as caramels, kisses and toffee.

Sizes: Furnished in sheets 24 x 36 inches in size; also in rolls for use on automatic candy-wrapping machines.

BASIC SALESPOINTS

Waxed papers, used as liners, bags and wraps, are extremely important in the protection and preservation of many different kinds of foods. Because they are moisture-vapor proof and grease-resistant, they prevent the escape of natural oils and moisture essential to the flavor and freshness of many foods.

These same protective qualities are also important in the packaging of many non-food items, such as cosmetics, soap and tobacco, and also for wrapping machinery parts.

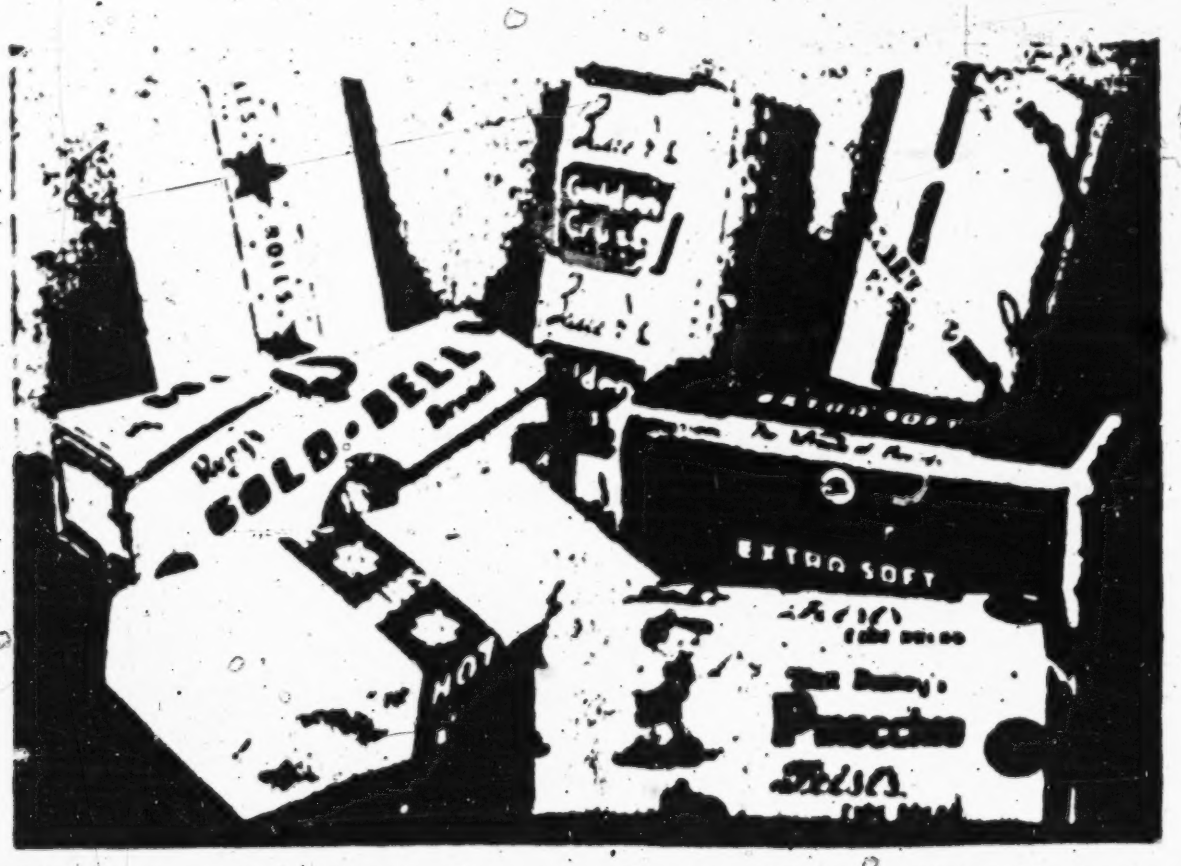
SALES OPPORTUNITIES

The "user" market for one or more of the various types of waxed papers includes meat packers, butchers, grocers, delicatessens, commercial and retail bakers, creameries, dairies, confectioners, wholesale and retail florists, quick-lunch counters, restaurants, roadside stands and other eating establishments, manufacturers or packers of cereals, dehydrated fruits and vegetables, coffee, cookies and crackers, and many other food items, soaps, tobacco and other non-food items.

For resale to the housewife, household waxed papers should be stocked by all retail outlets handling other types of household items. These include department, variety and general stores, hardware and grocery stores.

SERVICE SUGGESTIONS

Although the waxes used for waxing papers are usually of a high melting point, ranging from 125 to 140 degrees Fahrenheit, continued exposure of the papers to warmth may soften the coating and cause sheets to stick together or to lose their insulating qualities. Waxed papers should at all times be stored in a cool place, away from radiators and other sources of heat in winter, and unexposed to the direct rays of the sun in summer. When in sheets, the packages should be stored on end.



A group of waxed bread and roll wrappers. Courtesy Kalamazoo Vegetable Parchment Co.

DISPENSERS

Waxed food wrappers, flat or interfolded, are dispensed from the packaging carton or from special metal cabinets provided for individual types by paper manufacturers.

Roll fixtures with cut-off bar are used by food shops, butchers and delicatessens.

Household waxed papers are most generally dispensed from package cutter boxes.

MANUFACTURERS

American Tissue Mills, Holyoke, Mass.
Arrowsmith Paper Corp., New York, N. Y.
Badger Paper Mills, Peshtigo, Wis.
Ben-Mont Papers, Inc., Bennington, Vt.
B-P-D Company, New York, N. Y.
California-Oregon Paper Mills, Los Angeles, Calif.
Central Paper Co., Inc., Muskegon, Mich.
Central States Paper & Bag Co., St. Louis, Mo.
Central Waxed Paper Co., Chicago, Ill.
Cleveland Waterproof Paper Co., Rocky River, Ohio.
Crandles-Martin Mfg. Co., St. Louis, Mo.
Crystal Waxing Co., Middletown, Ohio.
Delmar Paper Corp., Lodi, N. J.
Diamond T Waxed Paper Corp., Chicago, Ill.
Dixie Wax Paper Co., Inc., Dallas, Tex.
East Coast Paper Products Corp., Brooklyn, N. Y.
Fabricon Products, Inc., River Rouge, Mich.
General Waxed Paper Co., Chicago, Ill.
General Waxed Paper Corp., Thompsonville, Conn.
Hamersley Mfg. Co., Garfield, N. J.
Hawes Mfg. Corp., Clayton, N. Y.
Henle Wax Paper Mfg. Co., New York, N. Y.
Hollingsworth & Whitney Co., Boston, Mass.
Household Paper Products Co., Detroit, Mich.
Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.
Kuhmarker Waxed Paper Co., Brooklyn, N. Y.
Lee Paper Specialties Co., Inc., Buffalo, N. Y.
Longview Fibre Co., Longview, Wash.
Marathon Corporation, Menasha, Wis.
Marcalus Mfg. Co., East Patterson, N. J.
Mid-West Wax Paper Co., Fort Madison, Ia.
Minerva Wax Paper Co., Minerva, Ohio.
Modern Tissues Corp., New York, N. Y.
Nashua Gummed & Coated Paper Co., Nashua, N. H.
National Waterproofing Co., Camden, N. J.
Nekoosa-Edwards Paper Co., Port Edwards, Wis.
Newark Parafine & Parchment Paper Co., Newark, N. J.
Ohio Wax Paper Co., Columbus, Ohio
Pacific Waxed Paper Co., Seattle, Wash.
Paterson Parchment Co., Bristol, Pa.
Port Huron Sulphite & Paper Co., Port Huron, Mich.
Quikut Home Papers, Boston, Mass.
Rapiwax Paper Co., Minneapolis, Minn.
Regal Paper Co., Pulaski, N. Y.
Rhinelander Paper Co., Rhinelander, Wis.
Riegel Paper Corp., New York, N. Y.
Robertson Paper Co., Bellows Falls, Vt.
Rochester Wax Paper Co., Rochester, N. Y.
St. Helens Pulp & Paper Co., St. Helens, Ore.
Salinas Valley Wax Paper Co., Salinas, Calif.
Sanlwax Paper Co., Kalamazoo, Mich.
Sanford, Frank M., Co., Inc., Brooklyn, N. Y.
Scott Paper Co., Cut-Rite Div., Hoboken, N. J.
Shawmut Waxed Paper Co., Holliston, Mass.
Smith, H. P., Paper Co., Chicago, Ill.
Southern Kraft Div., International Paper Corp., New York, N. Y.
Southern Paper Co., Ltd., New Orleans, La.
Southern Waxed Paper Co., Atlanta, Ga.
Specialty Papers Co., The, Dayton, Ohio
Treated Papers of America, Inc., Chicago, Ill.
United Paper Co., Tampa, Fla.
Waxed Paper Products Co., Omaha, Neb.
Waxide Paper Co., Kansas City, Mo.
Wax-Rite Products Co., Rochester, N. Y.
West Carrollton Parchment Co., West Carrollton, Ohio
Western Waxed Paper Co., Div., Crown-Zellerbach Corp., Los Angeles, Calif.
Wyoming Valley Paper Mills, New York, N. Y.
Zimmer Paper Products Co., Indianapolis, Ind.

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er than the bar and scored for folding, and with slotted ends into which the sides of the hanger fit. This type may or may not have serrated edges to hold the trousers in place; and

(3) A lighter weight board which folds easily and which is simply folded over the hanger bar and stapled in place.

A cardboard cover which fits over the top of wire hangers, and is constructed much like trouser guards, prevents the garments slipping or sliding while on the hanger and also spreads the shoulders of coats, dresses and other garments as the wearer's shoulders spread them in use.

BASIC SALESPOINTS

Advantages in the use of paperboard garment hangers are: the elimination of the dangers of injuring garments by rust stains, wire creases, or by catching on loose or rough wire; the elimination of the need for covers and guards; and their use as a medium for carrying advertising messages.

Trouser guards and hanger covers insure protection of garments from contact with wire.

SALES OPPORTUNITIES

Comprising the market for garment hangers and accessories are all those establishments in which garments are handled or displayed. These include dry cleaners, laundries, tailors, dress shops and department stores.

MANUFACTURERS

1—Fibreboard Garment Hangers
2—Trouser Guards
3—Garment Hanger Covers

Acme Folding Box Co., St. Louis, Mo.—2
Atlanta Paper Co., Atlanta, Ga.—1
Board & Paper Products Co., Inc., Fort Wayne, Ind.—1
Colorado Folding Box Co., Denver, Colo.—2
Clopay Corp., Cincinnati, Ohio—3
Community Paper Corp., New York, N. Y.—3
Fleischer Mills, Inc., The, Cincinnati, Ohio—3
Kleist & Co., Portland, Ore.—3
Kwik Cover Mfg. Co., Chicago, Ill.—3
Loroco Industries, Inc., Reading, Ohio—2
Marion Mfg. Co., Atlanta, Ga.—2
Para-Lux Products Co., Chicago, Ill.—1 2
Perfection Products Co., Dayton, Ohio—2 3
Protecto Prod. Co., Pomona, Calif.—3
Roll-O-Trouser Guards Mfg. Co., Western Springs, Ill.—1-2
Rosenthal Paper Co., St. Louis, Mo.—2
St. Joseph Paper Box Co., St. Joseph, Mo.—2
Spear Box Co., Inc., New York, N. Y.—1-2-3
Star-Service Hanger Div., The L. A. Young Spring & Wire Co., Detroit, Mich.—1
Surehold Div., Nashua Gummed & Coated Paper Co., Nashua, N. H.—3
Williams, R. N., Paper Co., St. Louis, Mo.—2

GLASSINE AND GREASEPROOF

CONSTRUCTION

The terms "glassine" and "greaseproof" are frequently, though incorrectly, used interchangeably. Basically, they are the same paper, made from the same base stock. Greaseproof, however, is the paper as it comes off the paper-making machine, either a semi-transparent or an opaque paper having a semi-smooth finish. When the base Greaseproof stock is supercalendered, it is transformed by heat, pressure and moisture into Glassine, a highly transparent sheet having a high, smooth finish or gloss.

Standard basis weights of Glassine and Greaseproof papers are 16, 18, 20, 25, 30, 40 and 50 lbs. (24x36—500).

GREASEPROOF

is made almost entirely of pulp prepared from long-fibred spruce. The quality of fiber permits a high degree of hydration. In preparing the pulp, the wood is reduced to small chips and then placed in a sulphite digester or pressure cooker. After the pulp is cooked, it is washed several times, screened, and used either bleached or unbleached.

The stock is given supplementary mechanical treatment to effect hydration essential to manufacture of Greaseproof paper. It may be further refined through Jordans and is screened and flowed on to a fourdrinier wire after approximately 99½ per cent pure water has been added. When the sheet is formed, most of the excess water is extracted by heavy suction, the balance of the water being removed by pressing and drying. A light finish is then given by the machine calenders. The resulting sheet is very resistant to the penetration or absorption of greases or oils.

Principal uses: For the protective wrapping of an extensive line of foodstuffs (see list on page 194). Large tonnage is used by meat packers and it is also in demand for tracing and manifold work, lining cartons, etc.

GLASSINE

Greaseproof paper is converted into Glassine by dampening it with water and then running it through a special supercalender of from 12 to 16 rolls. These rolls alternate between rolls of hard compressed paper and hollow steel steam rolls. They reduce the moisture content of the paper and give it a very high finish and transparency. Because of this supercalendering, Glassine is naturally highly resistant to the penetration and absorption of grease and oils, and is also dense and airproof; these properties make it especially suitable for the protective wrapping of foodstuffs of all kinds.

If transparency is not desired in Glassine, pigments or fillers are added to make it opaque. It can also be specially treated to give it "wet strength" properties, or it may be "plasticized" to make it more flexible.

Glassine may also be embossed or printed in a variety of patterns, as well as lacquered, waxed or laminated.

Principal uses: For the protective wrapping of an extensive line of foodstuffs and a wide variety of other products (see accompanying list); for lining boxboard for food boxes, as well as soap cartons, shell cases, etc.; for wrapping oiled machine parts, bearings, etc.; for electrical insulation; also for bags, envelopes, wraps, etc.

Standard sheet sizes: 24 x 36, 25 x 40, and 30 x 40 inches.

LAMINATED GLASSINE

consists of two sheets of Glassine laminated together with a specially prepared wax-resin mixture, giving the sheet, in addition to its grease-resisting quality, a moisture-vapor-resisting quality.

Principal uses: For wrapping essential foods; for packing dried and dehydrated eggs, vegetables and fruits; for packaging chemicals, powdered paint, prepared foods, peanuts, and for many similar uses.

WET STRENGTH GLASSINE AND GREASEPROOF

Glassine and Greaseproof papers may be given "wet strength" which causes the paper to resist disintegration even under prolonged soaking in water. Up

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NOMINAL WEIGHT PER 1,000 SHEETS OF GLASSINE AND GREASEPROOF

Basis—24 x 36—500

Sq. In. Required in Sheet	Basis Weight of paper (lbs. per 1,000 sheets)			Sq. In. Required in Sheet	Basis Weight of paper (lbs. per 1,000 sheets)		
	20 lb.	25 lb.	30 lb.		20 lb.	25 lb.	30 lb.
20	.93	1.16	1.39	84	3.88	4.86	5.84
21	.97	1.21	1.46	85	3.94	4.93	5.92
22	1.02	1.27	1.53	86	3.99	4.99	5.99
23	1.07	1.33	1.60	87	4.03	5.04	6.04
24	1.10	1.39	1.67	88	4.07	5.10	6.11
25	1.16	1.45	1.73	89	4.12	5.15	6.18
26	1.20	1.51	1.81				
27	1.25	1.56	1.88	90	4.17	5.22	6.26
28	1.29	1.62	1.94	91	4.22	5.27	6.33
29	1.34	1.68	2.02	92	4.27	5.33	6.40
				93	4.31	5.40	6.47
30	1.39	1.74	2.09	94	4.35	5.45	6.53
31	1.45	1.80	2.16	95	4.40	5.49	6.60
32	1.48	1.86	2.22	96	4.45	5.56	6.68
33	1.55	1.91	2.30	97	4.50	5.62	6.73
34	1.58	1.98	2.37	98	4.54	5.68	6.82
35	1.62	2.03	2.43	99	4.60	5.75	6.89
36	1.67	2.09	2.50				
37	1.72	2.14	2.57	100	4.64	5.80	6.95
38	1.77	2.21	2.67	101	4.69	5.86	7.01
39	1.81	2.26	2.71	102	4.73	5.92	7.08
				103	4.78	5.97	7.16
40	1.85	2.32	2.78	104	4.82	6.03	7.24
41	1.90	2.38	2.85	105	4.87	6.09	7.30
42	1.95	2.44	2.92	106	4.91	6.14	7.37
43	1.99	2.49	2.99	107	4.96	6.20	7.43
44	2.04	2.55	3.06	108	5.00	6.28	7.50
45	2.09	2.61	3.13	109	5.05	6.33	7.57
46	2.14	2.67	3.20				
47	2.18	2.73	3.27	110	5.10	6.38	7.64
48	2.23	2.77	3.34	111	5.15	6.43	7.71
49	2.28	2.84	3.42	112	5.19	6.50	7.79
				113	5.24	6.55	7.85
50	2.32	2.90	3.47	114	5.29	6.61	7.92
51	2.37	2.96	3.54	115	5.33	6.67	8.00
52	2.41	3.02	3.62	116	5.38	6.73	8.06
53	2.46	3.08	3.69	117	5.42	6.79	8.13
54	2.50	3.13	3.77	118	5.47	6.84	8.20
55	2.55	3.20	3.83	119	5.52	6.90	8.27
56	2.60	3.25	3.90				
57	2.65	3.30	3.96				
58	2.69	3.37	4.04	120	5.57	6.96	8.34
59	2.73	3.43	4.10	140	6.49	8.12	9.75
				160	7.42	9.27	11.12
60	2.78	3.47	4.17	180	8.35	10.44	12.51
61	2.83	3.53	4.24	200	9.28	11.60	13.90
62	2.87	3.60	4.32	220	10.21	12.78	15.29
63	2.92	3.68	4.38	240	11.13	13.92	16.69
64	2.97	3.71	4.45	260	12.08	15.07	18.67
65	3.01	3.77	4.53	280	12.98	16.24	18.48
66	3.06	3.83	4.59	300	13.72	17.40	20.85
67	3.11	3.89	4.66	320	14.35	18.56	22.24
68	3.15	3.94	4.72	340	15.78	19.72	23.63
69	3.20	4.00	4.80	360	16.70	20.88	25.02
				380	17.63	22.03	26.41
70	3.25	4.06	4.86	400	18.56	23.20	27.80
71	3.30	4.13	4.94	420	19.49	24.36	29.19
72	3.34	4.18	5.00	440	20.41	25.52	30.58
73	3.39	4.23	5.08	460	21.34	26.67	31.87
74	3.43	4.30	5.15	480	22.27	27.84	33.36
75	3.48	4.35	5.21	500	23.20	29.00	34.75
76	3.53	4.41	5.28	600	27.44	34.80	41.75
77	3.58	4.47	5.36	700	32.60	40.00	48.70
78	3.62	4.52	5.43	800	37.12	46.40	55.60
79	3.67	4.58	5.50	900	41.80	52.20	62.55
80	3.71	4.64	5.56	1,000	46.40	58.00	69.50
81	3.77	4.70	5.65				
82	3.80	4.75	5.70				
83	3.84	4.81	5.77				

A 500-sheet ream weighs one-half the nominal weight of the 1,000 sheets indicated above.

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PROPERTIES OF GLASSINE AND GREASEPROOF PAPERS

Properties	Plain Glassine	Lacquered Glassine	Waxed Glassine	Laminated Glassine	Laminated Glassine	Plain Greaseproof	Wet Strength Glassine and Greaseproof
GENERAL							
Type of Material	Physically Treated Paper	Coated Physically Treated Paper	Coated Physically Treated Paper	2-Ply Physically Treated Paper	3-Ply Physically Treated Paper	Mechanical Parchment	Specially treated to give wet strength
Forms Available	Sheets, Continuous Rolls and Converted Products	Sheets, Continuous Rolls and Converted Products	Sheets, Continuous Rolls and Converted Products	Sheets and Continuous Rolls	Sheets and Continuous Rolls	Sheets, Continuous Rolls and Converted Products	Rolls and sheets — uncoated, coated, laminated
Clarity	Near Transparency to Translucency & Opaque	Transparent and Opaque	Nearly Transparent and Opaque	Translucent and Opaque	Translucent to Opaque	Translucent and Opaque	Translucent and Opaque
Thickness Range, in.	0.00075-0.003	0.0008-0.003	0.0008-0.003	0.002 and Up	0.003 or more	0.001-0.004	.001 and Up
Maximum Width, in.	70	52	70	52	52	160	Same as non-wet strength in its various forms
Area Factor, sq. in. per lb.	7,200-34,000	9,600-20,600	6,600-28,800	9,500 and Less	6,200 or Less	7,200-25,400	" " " "
MECHANICAL							
Bursting Strength (Mullen) lbs. per sq. in.	10-50	10-25	8-40	26 and Up	40 or More	10-60	Dry—same as non-wet strength Wet—50% of non-wet strength
Tearing Strength (Elmendorf) grams	6-40	6-20	5-38	20 and Up	30 or More	8-45	Dry—same as non-wet strength Wet—300% of non-wet strength
CHEMICAL							
Water Absorption in 24-hr. Immersion Test, per cent	Medium	Moderate	Very Low	Medium	Medium	High	Moderate, but paper does not disintegrate
Moisture Vapor-Permeability[2], grams/24 hrs./100 sq. in. at 100° F. 95% RH	High	0.2-1.0	0.2-1.0	Moisture resistance is increased when lacquered	Moisture resistance is increased when lacquered	High	Same as non-wet strength in its various forms
Permeability to Gases	Low	Low	Low	Low	Very Low	Moderate	" " " "
Resistance to Acids	Moderate	Moderate	Moderate	Moderate	Moderate	Good	" " " "
Resistance to Alkalies	Fair to Good	Good	Good	Fair to Good	Fair to Good	Poor	" " " "
Resistance to Grease and Oils	Good	Good	Excellent	Excellent	Excellent	Good	" " " "
Resistance to Organic Solvents	Good	Poor	Good	Good	Good	Good	" " " "
PERMANENCE							
Resistance to Heat (Limiting Temp.) °F.	150-240° F.	Heat Sealing	Heat Sealing	130-150° F.	130-150° F.	150-240° F.	" " " "
Resistance to Cold (Limiting Temp.) °F.	—20° F.	—20° F.	—20° F.	Depends on Plasticizer	Depends on Plasticizer	—20° F.	" " " "
Resistance to Sunlight	Good	Good	Good	Good	Good	Good	" " " "
Dimensional Change at High R.H., per cent	Slight	Slight	Slight	Slight	Slight	Slight	" " " "
Resistance to Storage	Good	Good	Good	Good	Good	Good	" " " "
Flammability	Similar to Paper	Inflammable	Inflammable	Inflammable	Inflammable	Similar to Paper	" " " "

[2]Using $CaCl_2$ in Test Dish

to 50 per cent of the original dry bursting strength and several times the dry tearing strength of the paper can be preserved after one hour's soaking in water at room temperature. This property is especially valuable and essential when the paper is to be used as a wrapper for frozen foods.

Principal uses: For packaging frozen foods, and for wrapping other moist and semi-moist foods and products.

COATED (INCLUDING LACQUERED) GLASSINE

Glassine papers are being coated with several types of lacquers, including nitrocellulose, resins, cyclized rubber, etc. These lacquers are applied from organic solvents. The advantages of such coating are high transparency and excellent moisture vaporproofness. Heat-sealing or adhesive seal qualities are optional. Other coatings for Glassine include hot melts and metallic coatings for decorative uses.

Principal uses: For wrapping a wide variety of foods and for packaging many products where good transparency and moisture-vaporproofness is desired.

WAXED GLASSINE

Glassine paper treated with paraffin wax, which serves to make the sheet more transparent and to increase its resistance to moisture and moisture vapor, is referred to as waxed Glassine. It is the most nearly water-vaporproof form of waxed paper, and is especially useful for packaging items such as cereals, brown sugar, etc., where it is advisable to re-close the package in order to protect the unused portion of the contents. Waxed Glassine lends itself very well to such reclosure.

BASIC SALESPOINTS

Since Glassine and Greaseproof papers resist the penetration of grease, germs, dust, air and moisture, and when waxed, lacquered or laminated, are highly moistureproof, they are ideal protective wrappings for all kinds of products. The fact that they are adapted to an infinite variety of uses is a salespoint in itself.

Laminated Glassines, for example, with their wax-resin content, have a moisture-vapor-resisting quality that makes them superior for use in wrapping products requiring such qualities, and are being extensively used for such purposes.

SALES OPPORTUNITIES

All businesses handling products that require a sanitary wrapping which affords protection against grease and atmospheric conditions are prospects for the sale of Glassine and Greaseproof papers. These include makers and packers of all types of foodstuffs, manufacturers of pharmaceutical products, and manufacturers of such diverse items as razor blades, electrical goods, tobacco, cigarettes, etc.

MANUFACTURERS

1 — Plain Glassine
2 — Coated (Including Lacquered) Glassine
3 — Waxed Glassine
4 — Laminated Glassine
5 — Plain Greaseproof
6 — Wet Strength Glassine
7 — Wet Strength Greaseproof

Dwerfield Glassine Co., Inc., Monroe Bridge, Mass.—1 3 4 5 6 7
Hamersley Mfg. Co., Inc., Garfield, N. J.—1 3 4 5

PRINCIPAL USES OF GLASSINE AND GREASEPROOF PAPERS

Wrapping and packaging of food products:

Flour, Bread, etc. — Flour, meal, grits, bread, rolls, cakes, crackers, noodles, macaroni, biscuits, sandwiches, pies, cookies, pretzels, doughnuts, pastries, corn meal mix, pudding powders, flour mixes containing shortening.

Meats and Fish — frozen, dried, fresh or prepared; lard, sausage, bacon, smoked meats, smoked fish, soup mix, chicken fat, dog food, margarine, gelatine, animal foods.

Fruits — fresh, frozen, dried, dehydrated or prepared.

Vegetables — fresh, frozen, dehydrated or prepared; vegetable colorings, peanuts, popcorn, potato chips, chile powder.

Cereals — ground or prepared.

Dairy products — poultry (dry picked) dehydrated eggs, powdered skim milk, butter, cheese, dessert powders, bar wraps, popsicles.

Beverages—coffee, tea, chocolate, cocoa, malted milk.

Candy — chocolates, candy bars, hard candies, milk and dextrose flavored tablets; also for bon bon cups and candy box findings.

Condiments — salt, pepper, spices, flavorings.

Miscellaneous — chewing gum, chiclets, wheat germ, sugar, granulated chocolate.

Wrapping pharmaceutical products:

Bandages, sterilized gauze, surgical dressings, tooth brushes, medicinal powders, pills, drugs, epsom salts; surgical instruments, tongue depressors; soaps, cosmetics, toilet articles; organic and inorganic chemicals, powdered chemicals; powdered paint; poultry remedy, poultry feed concentrate,

Wrapping parts and accessories:

Oiled machine parts, ball bearings, piston rings, accessories for airplanes, automobiles, etc.

Insulation:

Coils, transformers, electric welder controls, high speed chasers, graphite anodes, choke coils, condensers.

Engineering and Design:

Tracings, wrapping of tracings; field maps.

Communications:

Water copies telegraph company files.

Window Envelopes, Carbon Paper

Miscellaneous Uses as:

Meat Patty Separator
Shell Case Lining
Lining of Boxboard for Foodstuffs, soaps, etc.
Carton Liners
Separator Paper
Backing Stock
Liner for Shipping Containers
Shredded, for packing protection
Fly Leaves
Book Jackets
Gummed Glassine Tape
Emblems
Policy Envelopes
Dressmaking Patterns
Doilies
Labels and Tags
Mats
Advertising and Display Material
Shirt Bands
Hosiery Folders
Laundry Bags
Wearing Apparel Bags
Gold Leaf Transfers

Miscellaneous Wrapping for:

Tobacco
Potting Soil
Photograph Negatives
Typewriter Ribbons
Chamois
Cigarettes
Games
Gloves
Hair Nets
Neckwear
Bottles and Cans
Books, Periodicals, Circulars
Index and Playing Cards
Cutlery
Jewelry
Lamp Shades
Handkerchiefs
Insecticides
Lunch Accessories — paper napkins, plates and cups
Facial Tissue
Stationery
Greeting Cards
School Supplies
Bulbs
Cushions, Blankets, Bedding, Towels
Cosmetics
Razor Blades
Rodenticides
Rubber and Rubber Products
Candles
Soaps
Textiles
Toys
Yarns

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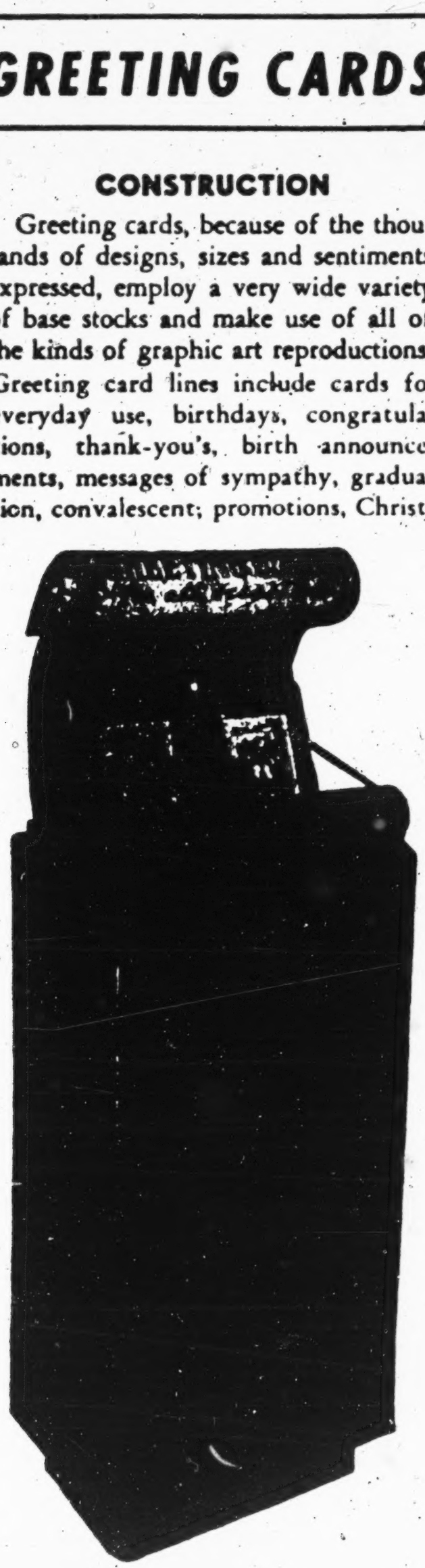
Hartford City Paper Co., Hartford City, Ind. 1 2 5
Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich. 5
Mountain Mill Corp., Lee, Mass. 1 6
Rhinelander Paper Co., Rhinelander, Wis 1-2 3 4-5 6-7
Riegel Paper Corp., New York, N. Y. 1 2 3 4 5 6 7
Thilmany Pulp & Paper Co., Kaukauna, Wis —1-3-4 5 6 7
Westfield River Paper Co., Inc., Russell, Mass.—1 2 3 4 6

GREETING CARDS

CONSTRUCTION

Greeting cards, because of the thousands of designs, sizes and sentiments expressed, employ a very wide variety of base stocks and make use of all of the kinds of graphic art reproductions. Greeting card lines include cards for everyday use, birthdays, congratulations, thank-you's, birth announcements, messages of sympathy, graduation, convalescent; promotions, Christmas, Easter, Valentine's Day, Mother's Day, New Year's, and numerous other events.



Customers select cards wanted from the samples displayed on top of floor cabinet, each sample being marked with the price and the number of the card. Cabinet drawers contain the merchant's stock of greeting cards. Photographs courtesy White & Wyckoff Mfg. Co.

Papers commonly employed for the purpose include the papeterie grades, wedding papers and bristols, text, and many types of coated or processed papers, (velour, flock and felt finishes, mica-coated, etc.) A selection of colors from soft pastels to brilliant shades is offered.

In reproducing the designs and sentiments, offset lithography is very popular. Also employed is straight letterpress printing, gravure, steel- and copper-plate engraving, die-stamping, hot and cold embossing, thermography (raised printing), silk screen printing, etching, and in some cases even hand and air-brush coloring or tinting. Many cards employ a combination of two or even more of the above processes.

Greeting cards are made available by producers in various ways. Very popular are card "deals" in which a combination counter display and storage cabinet is supplied with a selection of from 350 to 2500 cards suitable for all occasions, such as weddings, birthdays, anniversaries, etc. For a smaller number of cards (usually 50 to 100), attractive counter displays without storage space are available.

Christmas cards are very often put up in wrapped or banded packs of five to ten assorted cards, 24 or 36 packs to a counter display case, or packed in boxes containing 10 to 25 assorted cards to be sold by the box.

SALES OPPORTUNITIES

For many years, numerous fine paper merchants throughout the country have enjoyed a very satisfactory business in furnishing printers and engravers with Christmas and other special cards. These cards are available in complete units for the printer to imprint for his customers or are furnished complete with the user's imprint, as desired. Consumer Christmas card business comes at a time of the year when many print shops are otherwise experiencing a "low ebb" and the paper salesman's suggestion to go after this local business has many times helped cement his relationship with numerous printers as well as provided him with welcome additional billing.

In more recent years, paper salesmen calling on retail stores have found a "wedge" to new accounts by offering a fully assorted line of greeting cards to many of their prospects. Advantages

Counter displays for stationery and gift shops and other greeting card outlets contain 50 10-cent or 100 5-cent cards in a dozen assorted designs. Whether friendship, sympathy, birthday or other cards, such a selection appeals to the consumer by allowing him his choice of many cards.

to the retailer, in addition to the profit return (and the mark-up is usually higher than on most of his investments) include: increased store traffic, additional customer service and the idea so many consumers get—that a store handling greeting cards is a "friendly" store.

Prospects are drug, novelty, department, jewelry, gift and many other retail stores, even including some haberdashery, hosiery and similar shops.

MANUFACTURERS

Ace Engraving & Embossing Co., Chicago, Ill.
Aldine Paper Co., Inc., New York, N. Y.
American Greeting Card Publishers, Cleveland, Ohio.
Art Point Studios, Sebastopol, Cal.
Baruch, Paul L., New York, N. Y.
Bergo-Marvin, Inc., New York, N. Y.
Bockmann Engraving Co., Chicago, Ill.
Brooklyn Art Pub. Co., New York, N. Y.
Brown, Inc., Wallace, New York, N. Y.
Burgoyne, Sidney J., & Sons, Philadelphia, Pa.
Butler-Thomas Co., Philadelphia, Pa.
Buzza-Cordozo, Hollywood, Cal.
Buzza Co., The, Minneapolis, Minn.
Carrington, Geo. S., Co., Chicago, Ill.
Century Engraving & Embossing Co., Chicago, Ill.
Cryson's, Ltd., Los Angeles, Cal.
Dreyfuss Art Co., New York, N. Y.
Etchcraft Co., The, Chicago, Ill.
Exclusive Co., The, Philadelphia, Pa.
Fravessi-Lamont, Inc., New York, N. Y.
Fuld, A., & Co., New York, N. Y.
Gartner & Bender, Inc., Chicago, Ill.
Gatto Engraving Co., New York, N. Y.
Gibson Art Co., The, Cincinnati, Ohio.
Greentree Publishers, Inc., Boston, Mass.
Grinnell Litho. Co., New York, N. Y.
Hale, Cushman & Flint, Inc., Boston, Mass.
Hall Brothers, Inc., Kansas City, Mo.
Hampton Art Co., Boston, Mass.
Heywood, R. R., Co., Inc., New York, N. Y.
Keating Co., The, Philadelphia, Pa.
Lowe, Samuel, Co., New York, N. Y.
McNicol, Jessie H., Boston, Mass.
Meryle Publishing Co., New York, N. Y.
Messenger Corp., Auburn, Ind.
Metropolitan Litho. & Pub. Co., Everett, Mass.
Miller Art Co., Inc., Brooklyn, N. Y.
Milner Bros. Inc., New York, N. Y.
Murphy, J. T., Co., Philadelphia, Pa.
Name-On Stationery & Greeting Card Co., Cleveland, Ohio
National Greeting Card Co., Detroit, Mich.
National Printing Co., Thompsonville, Conn.
Norcross Publishers, New York, N. Y.
Novelart Mfg. Co., Long Island City, N. Y.
Nu-Art Engraving Co., Chicago, Ill.
Paramount Line, Inc., The, Providence, R. I.

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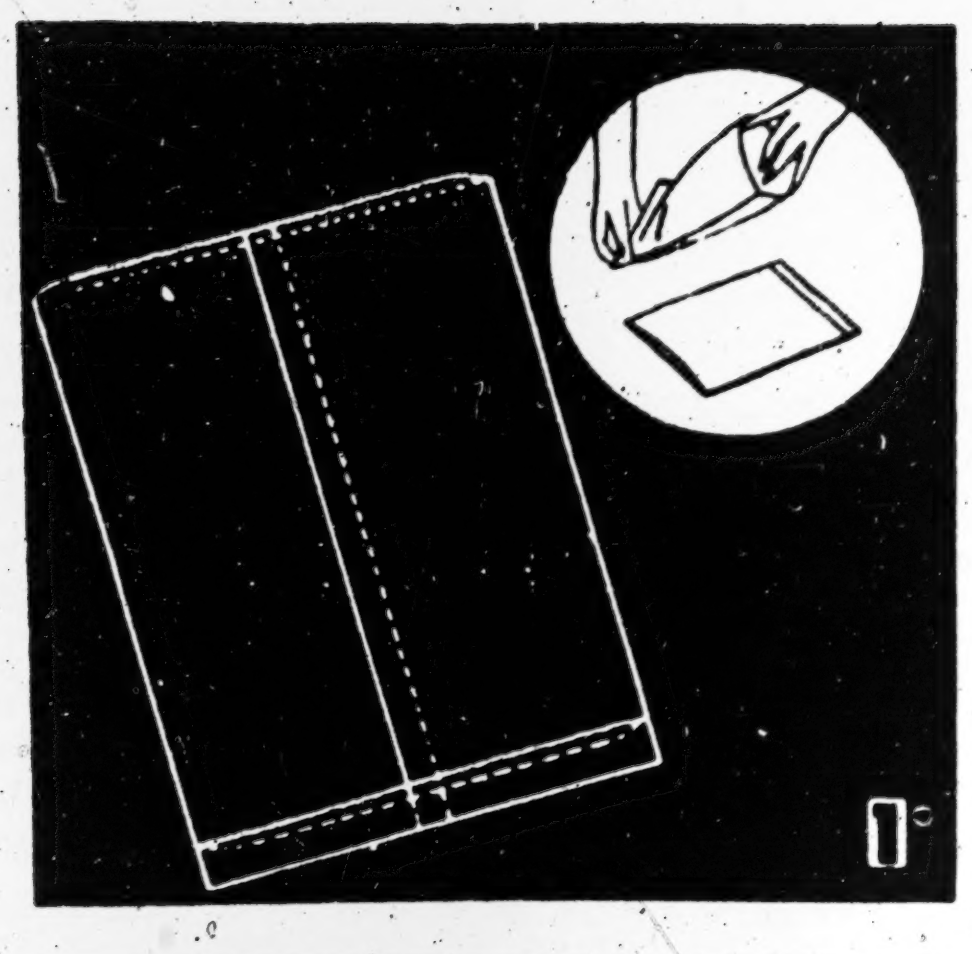
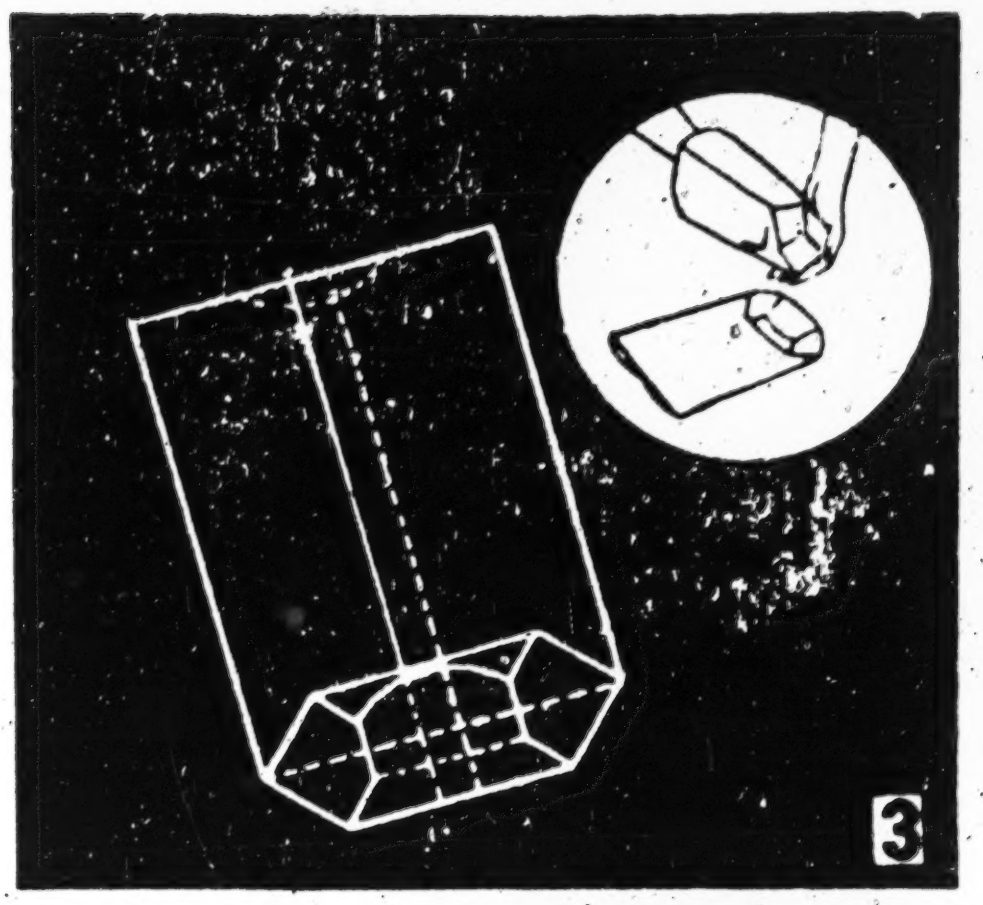
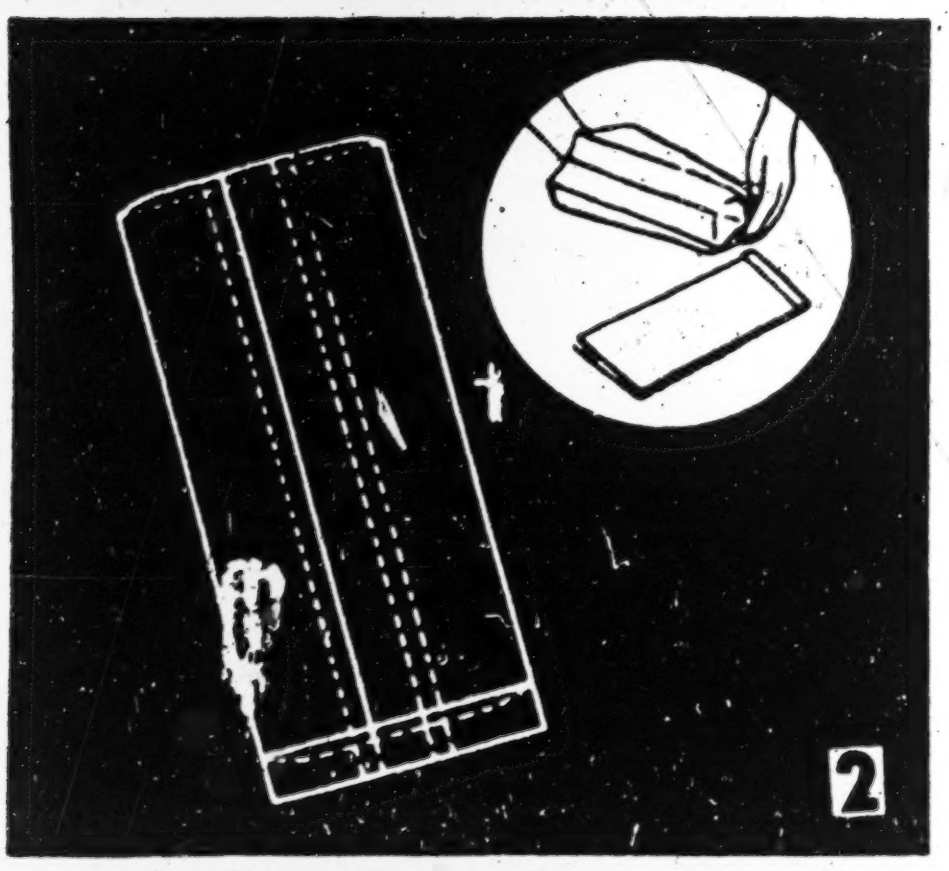
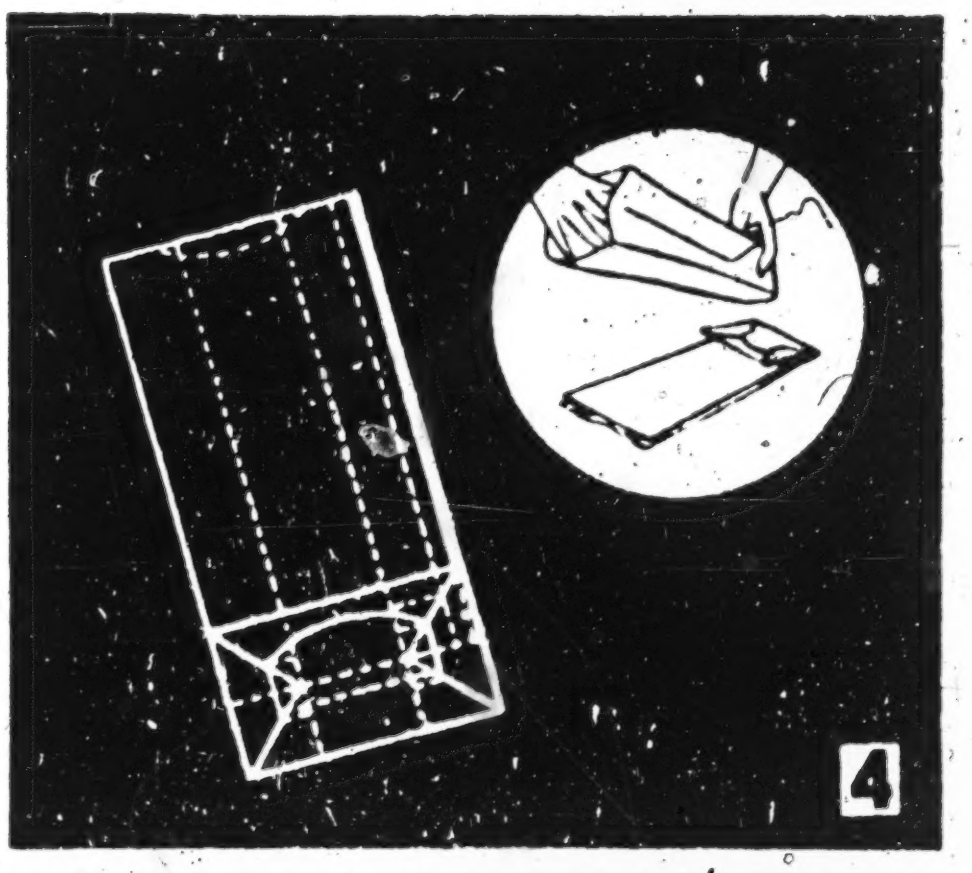
✓ Defendant's Exhibit No. 297









THE FOUR BASIC TYPES OF BAGS. These four illustrations show the basic construction of all bags. (1) The Flat Bag is the simplest in construction and most economical to manufacture. The bottom is simply folded under and pasted, as can be seen from the diagram. (2) The Squere Bag, which is an adaptation of the Flat Bag with the same simple folded-up bottom, has a bellows fold or accordion pleat in the sides, reducing the width of the closed bag without reducing its capacity. (3) The Satchel-Bottom Bag. The feature of this bag is its bottom construction which, when filled, provides a flat base. (4) The Automatic (Self-Opening) Bag has the bellows fold in the sides and an improved bottom. Illustrations courtesy Union Bag & Paper Corp.

II. BAG STOCK

Almost any kind of paper can be used for making bags. However, the stock from which bags are usually made is manufactured especially for this purpose, has a special finish and possesses additional characteristics which ordinary wrapping paper, for example, does not have. The choice of stock, therefore, depends upon the use to which the bags will be put or, if used for pre-packing, the type of product to be packed, how it is packed, and the shipping and warehousing conditions under which the product is generally handled and stored. The great majority of bags are made from the following types of papers:

A. KRAFT

Unbleached Kraft. This is the most widely used of all bag papers. It is a strong, lightweight sheet made entirely from wood pulp and manufactured on a Fourdrinier machine with a regular M. F. or M. G. finish. The stock can be colored but, as it is difficult to obtain bright, clear colors or soft pastel shades with this paper as a base, unbleached kraft is commonly used in its natural color (light brown). It can, however, be watermarked, striped, calendered or decorated and possesses a suitable printing surface.

Basis weights range from 15 to 150 lbs (24 x 36—500), the weight chosen generally depending upon the size of the bag. The stock is especially well suited for practically any type of bag where strength is a major factor, such as grocers bags, garment bags, hardware bags, bottle bags, etc.

4712 567

Bleached Kraft has become very important as a bag paper, since it provides a strong, lightweight sheet which, with the use of fully or semi-bleached pulp, can be produced in a variety of lighter shades of brown, cream tones and white, and, with the use of dyes, can be made in any color. Basis weights range from 25 to 70 lbs. (24 x 36—500).

The advent of wet-strength papers within the past several years is doing much to improve the versatility of kraft bags. Treatment of bag paper with a wet-strength agent—such as melamine formaldehyde or plastic resins—imparts a strengthening bond to the fibres so that subsequent contact with moisture and water does not affect the paper. Such papers are ideally suited for wet wash bags, garbage bags, beverage and ice cream bags wherein the contents have been refrigerated and tend to "sweat" water droplets when exposed to normal temperatures.

Bleached kraft bags combine attractive appearance with good strength, and are widely used for merchandise, garment, notion and millinery, lunch, refrigerator and other types of bags.

B. SULPHITE

This paper is made from bleached, semi-bleached or unbleached sulphite pulp with either a M.F. or M.G. finish. Basic weights range from 25 to 70 lbs. (24 x 36—500).

The stock is generally decorated, either by water-marking, embossing or printing, and is usually tinted to a pleasing shade to harmonize with the advertising message on the bag. While sulphite paper for a bag stock has been replaced to some extent by bleached kraft which is stronger and lighter in weight, it is often used for bags where appearance is a particularly important factor. Notion bags, used primarily for such items as gloves, ties, hose, etc., are frequently made of sulphite.

C. GLASSINE

Among the stocks used for bag making, glassine — because of its special properties — occupies a very important place. A highly transparent, airproof and grease-resisting paper, it is used extensively for packaging foodstuffs and a wide variety of other products. Any manufacturer of a product requiring a sanitary wrapping, protection against atmospheric conditions and changes, or grease penetration is a potential user of glassine or greaseproof (the basic sheet) in plain, waxed, coated or laminated form, depending on the end use of the bags.

Glassine has a smooth, non-porous and non-absorbent surface and is well adapted to any form of printing, waxing, lacquering and other types of coatings, lamination to itself and to other types of paper and board.

D. CELLOPHANE

Cellophane is among the most commonly used materials for transparent bags. A completely transparent sheeting, it is lustrous, durable, flexible and impervious to air, grease, and dirt.

Visibility is one of the most important features of cellophane as a bag material, for if a product possesses any eye-appeal at all, its sales potentialities will be increased materially by enclosure within a cellophane bag. It provides an attractive display and serves as a strong inducement to the retail merchant to give this type bag preferred space in the window and on the table, counter or shelf. While the product so packaged can be seen and felt from the outside, it cannot be touched. It thus meets with ready acceptance on the part of the consumer as being fresh and sanitary.

The importance of the strength of the stock should be apparent to the buyer, since this determines the weight or thickness of the paper bag required. The lighter the weight, strength considered, the more paper the buyer can get for his money.

Yield of the material is also an important consideration. If a lighter weight material can do the job, then the buyer gets more for his money. Thus, although they cost more on a per pound basis, transparent cellulose films often yield up to twice as many sheets and bags as does less expensive but heavier waxed paper.

There are many different grades of cellophane available, but the most important, insofar as bag stock is concerned, are the following:

(1) *plain transparent* for products not affected by moisture loss or absorption. Such products include dry goods, soaps, stationery, some candies, wearing apparel, etc.

(2) *moisture - proof transparent* for products which require protection from atmospheric changes. Such products include perishable foods, medical supplies, tobacco, and metal items that are subject to corrosion.

(3) *moisture - proof heat - sealing transparent*, which is the same as Type 2 but which can be sealed to itself through the application of heat.

(4) *moisture - proof heat - sealing, anchored*, for products requiring the moisture protection given by moisture-proof heat sealing as well as resistance to liquids. The purpose of anchored coatings is to insure against the coating becoming separated from the base film under wet conditions. It is widely used for frozen food bags and packaging fresh vegetables.

Cellophane is available in red, green, blue, pink, orange, amber, orchid and violet, and may be printed by letterpress, aniline or gravure, in one to six colors.

E. RUBBER HYDROCHLORIDE SHEETING (PLIOFILM)

Of the many transparent sheetings introduced in recent years to bag manufacturers, that made with a rubber hydrochloride base (Pliofilm) is becoming one of the most widely used.

Rubber hydrochloride sheeting is made in a clear transparent type and also in a wide range of transparent and opaque colors. Its principal advantages are:

—that it is impervious to dilute acids, air, alkali, brine, grease, normal heat and cold, moisture, mold, oil and water

—that it is dimensionally stable throughout the entire humidity range

—that it has great tensile strength and resists puncture

—that it is non-explosive and not readily inflammable

—and that it may be closed by heat-sealing, sewing, or adhesive. Heat-sealing effects an actual fusion of the material, thereby creating an air-tight bond stronger than either sheet.

Alone, or laminated to paper or foil, it can be used for packaging a wide variety of food and non-food products, such as cheese, meat, frozen and dehydrated foods, fresh and frozen sea foods, coffee, liquid products, citrus fruits, crackers, cookies, candies, nutmeats, plastic compounds, roofing materials, seeds, cosmetics, etc.

F. VEGETABLE PARCHMENT

The fact that genuine vegetable parchment is greaseproof and has very high wet strength makes it ideal for packaging foods and other products which contain an excess of oils or moisture.

M 5213

Made from high alpha cellulose type pulps, it is the purest paper known, and is odorless and tasteless. Soft, pliable and equally strong when dry or wet, genuine vegetable parchment is insoluble in boiling water and can be sterilized without disintegrating.

Bags and liners made from this stock are highly suitable for packaging especially greasy products, such as lard, sausage, butter, cheese, shortening and all kinds of meat and fish. Parchment bags help keep foodstuffs clean, preserve their natural flavor, prevent contact with air, and retain grease and natural juices within.

G. WAXED PAPER

The two types of waxed paper generally used in the manufacture of bags are: dry waxed sulphate and wet waxed (self-sealing) sulphite. In the manufacture of the dry waxed sheet, the base stock is impregnated with paraffine so that it is more in the body than on the surface of the sheet. The stock has a dry-to-touch feel as compared with the greasy feel of the wet waxed type. Sealing of bags made of this type of paper is effected by applying hot wax to the seams. Dry waxed bags are opaque, not entirely resistant to water, vapor or air, and provide only moderate protection against changes in moisture content. They are generally used for bakery goods and other food products requiring some moisture-proofness but no grease-proofness.

In the manufacture of wet waxed paper, the wax is applied to the surface of the base stock by rollers submerged in a tank of liquid wax. Thus, the sheet has a greater resistance to the passage of air and of water vapor. It is self-sealing on application of heat.

Both varieties of waxed paper are suitable for printing, but to insure clear reproduction it must be done before the paper is waxed.

H. METAL FOILS

Although metal foil has been employed in the manufacture of bags for many years, the technical developments of recent years have greatly expanded the use of metal foils in this field. Developments in new laminations, new coatings, and new methods of sealing have increased its protective qualities and its uses. Some of the new materials include laminations of foil to cellophane, to cellophane and kraft, to cellulose acetate, to paper and wax combinations, to vinyl film, etc.

Advantages of metal foil bags are that they have a low moisture transmission rate; that they are completely opaque which makes them especially suitable for products sensitive to light rays; that they retain aroma and flavor by forming a positive barrier to vapor transmission; that they are very flexible; and that they are highly resistant to grease and moisture.

Many food and non-food products requiring protection from spoilage through moisture and rancidity are suitable for enclosing in metal foil bags. Among such products are potato chips, coffee, tea, pretzels, cheese, dehydrated soups, prunes, powdered drinks, tobacco, chemicals, etc.

I. WOVEN PAPER FABRIC

Tightly twisted strips of kraft paper are woven into a mesh-like sheet for conversion into orange, onion, apple, potato bags, etc. in sizes for consumer use and also for bulk shipping.

Woven paper fabric used in the manufacture of bags for sales of vegetables and fruits to consumers, is available in several colors and has a fairly open mesh which provides visibility of the product. The twisted strips are frequently treated with wet-strength agents so as to enable the bags to be used for shipment of damp produce.

For bulk shipments, the paper fabric is generally stronger with a heavier, close mesh.

III. STOCK BAGS

Stock bags are usually defined as those manufactured in various standard sizes, by high-speed machines especially designed for large volume production, carried in stock, and used as a packaging material in retail and service establishments for enclosing individual purchases at the time the sale is made so that they may be conveniently carried or delivered to the home.

The bags are constructed in four basic shapes (see Basic Construction, page 23), from a wide selection of papers, and are available plain or printed. Closure is generally effected by folding over the top of the bag and, where necessary, tying or sealing it by hand.

There are scores of different kinds of stock bags available in the paper industry. Most of them, however, will fall into one of the following major groups:

BAKERY BAGS (DUPLEX)

CONSTRUCTION

Duplex bakery bags are made in automatic (self-opening) and square styles, generally with a striped kraft paper on the outside and with a grease-proof or glassine liner. This type of bag is particularly useful for packaging doughnuts, cookies, buttered finger rolls, sweet rolls, etc.

Sizes: Both the automatic and square types of bags are available in three standard sizes: ½ doz. (4½ x 2⅝ x 9½ in.); 1 doz. 4¾ x 3¼ x 12¼ in.); and 2 doz. (6 x 3¼ x 15 in.). There are slight variations of these sizes, depending upon the individual manufacturer.

BASIC SALESPOINTS

Bakery bags help preserve the freshness of their contents and prevent any grease from penetrating and soiling the customer's clothing. They save time, space and money for the retail merchant and make a convenient package for the customer to carry home.

SALES OPPORTUNITIES

There is a wide market for this type of bag: bakeries, delicatessens and grocery stores, chain stores and supermarkets, restaurants, roadside stands, doughnut and nut shops.

BANANA BAGS

CONSTRUCTION

Of 30 lb. brown M. F. kraft, square style with or without reinforced tops, banana bags are generally made in seven stock sizes, ranging from 17 x 3⅜ x 34½ in. to 21⅜ x 4 x 50½ in. As their name implies, banana bags are designed to protect bananas from temperature changes in the warehouse. However, they also serve a number of additional odd uses, such as to protect flowers and vegetables from frostbite, as liners for cotton and burlap sacks, and as wrappers for blankets, cotton goods and similar items.

M 521.7

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Defendant's Exhibit No. 298

DU PONT CELLOPHANE

DU PONT CELLOPHANE COMPANY, INC.

GENERAL SALES OFFICE
40 WEST 40th STREET
NEW YORK, N. Y.

NOTED.
T. M. MAY

18C5

August 13, 1924.

Du Pont Cellophane Co. Inc.,
Station B,
Buffalo, New York.

Attention: Mr. Du Pont Lee

Gentlemen:

This is for your follow-up file and that we may have the questions answered as to the relative value of Cellophane compared with Gelatine, Glassine, Parafine, Parchmont, and Tinfoil at an early date.

Appreciating your co-operation in getting us this information, we are

Yours very truly,

O. F. Berg

SALES MANAGER

OFB.D

MAIN OFFICES & FACTORY
BUFFALO, N. Y.

ADDRESS ALL COMMUNICATIONS TO THE COMPANY, NOT TO INDIVIDUALS

M 5182.

Defendant's Exhibit No. 299

cc: Messrs. May
Lee
Culle

August 19 1924.

Mr. C. F. Sens,
Sales Manager.

Subject: Comparison of Properties of Cellophane with Competitive Products.

We are giving below a list of comparisons of the properties of Cellophane with those of gelatin sheeting, tinfoil, glassine paper, paraffin paper and parchment paper. We have given a great deal of thought to classification of these properties with full realization that in any case they could not be absolutely accurate. Some of our beliefs were verified to an extent by laboratory tests and we feel that the list as given contains data of interest to your Sales Department which, altho not final as regards accuracy, might be used as a basis, with judgment of course, for certain sales arguments. We consider the listing of these properties as a preliminary report which will be verified and amplified as we obtain opportunities for making the tests in the proper manner. Such new data as we gather shall be forwarded to you as soon as available.

The notations which are used in judging the various qualities are as follows:

(1) Signifies the best material, properties which are excellent, resistance which is high, etc., to

(5) which indicates the very poor quality for the purpose, or low resistance to some influence.

Explanations of these notations have been made where necessary.

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Mr. Bens - Page 2 - Comparison of Properties of Cellophane. 8-19-24

	Gelatin	Glassine	Paraffin	Parchment	Tinfoil	Cellophane
Transparency	1	3	3	4	5	1
Sanitary Qual. (Based on belief)	5	4	3	4	2	1 *
Grease-proofness	1-2	1	1-4	4	1	1
Odor	1-3	1	2	1	1	1
Water-proofness (tested with onions)	1	4	4	4	1	2 *
Water-proofness " resistance	2-5	4	1-4	4	1	3 *
Inflammability	2	4	5	4	1	3 *
Resistance to elevated temp. (Heated at 100° C. for ½ hr.)	5	2	3	2	1	3
Solubility in water (Soaked in water for 2 hr.)	2-5	2	2	3	1	2 *
Solubility in Acid	5	2-3	2-3	3	5	3 *
Taste						*
Toxicity (If No arsenic)	1	3	3	3	5	2 *
Pliability	4	3	2	3	4	1 *
Elasticity	4	5	5	5	5	1 *
Folding Endurance	5	3	2	3	5	1 *
Smoothness	1	2	2-3	4	2	1
Corrosion Products (Based on Belief)	1	1	1	1	5	1
Surface Hardness	2-5	3	3	3	5	5

* — Refer to footnotes.

M 5184

Sanitary - Altho paraffin and tinfoil are marked 3 and 2, because they keep out moisture, Cellophane has a slight advantage in that the glycerin acts as a mild antiseptic.

Odor-proofness - Water soluble odors are likely to penetrate Cellophane much more than they do gelatin, whereas odors from greasy or oily materials, such as essential oils, perfumes, etc., should not penetrate easily.

Water-proofness & Water Resistance - Gelatin resists water in the proportion in which it has been hardened, before being put on the market. Some of the gelatin sheeting is quite soluble in water and others have been hardened with formaldehyde or other hardening agents so that they will not dissolve at all.

Paraffin paper is waterproof to a variable extent: some of the very thin papers are porous and water oozes thru easily; in the heavier qualities paraffin paper is found to be perfectly waterproof.

Inflammability - Cellophane is considered to be somewhat less inflammable than glassine and parchment papers on account of the glycerin and moisture which it holds.

Solubility in Water - Cellophane is insoluble in water altho the glycerin is extracted out. Altho the Cellophane is weak while wet, on drying again it is somewhat stronger, less elastic and more brittle.

Solubility in Acids - No acids were mentioned in connection with this subject and the estimates may be considered only approximate. Different acids will react in a different manner. We would suggest that this item be dropped from the list.

Taste - Altho each of the materials has some noticeable taste, the tastes, however, are of different qualities and very difficult to classify. The only one having a decided taste is Cellophane which is sweet, due to the glycerin content.

Edibility - Gelatin is the most edible of all, provided, however, that it contains no arsenic. Most of the gelatin used for wrapping purposes, contains small amounts of arsenic and should be considered unedible. Cellophane is edible but contains practically no nourishment.

Pliability, Elasticity, Bending Endurance (Brittleness), etc.

In considering the physical properties of these materials, very

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much depends upon the thickness, temperature and humidity at the time of trial. Consequently, it would not be fair to give any comparative data on this until actual tests have been made. The figures given in the above table for pliability, elasticity, folding endurance, are estimates and subject to revision after actual tests have been made.

H. F. Whittaker

HFW:AMC

CHEMICAL DEPARTMENT

M 5184

Defendant's Exhibit No. 300

DU PONT CELLOPHANE COMPANY, INC.
NEW YORK, N. Y.

August 28, 1924.

1611

SUBJECT: COMPARISON OF PROPERTIES OF CELLOPHANE WITH COMPETITIVE PRODUCTS

Dear Mr. Whittaker,

On the writer's return to the office, he found your report covering the above subject and comprehensive chart which should prove very valuable to us, in the development of our men in the field.

Thank you very much for your cooperation.

Very truly yours,

E. J. Berg

SALES MANAGER

OFB.D

M 5185

cc to Mr. Lee
Mr. Cullen

M 5185

Defendant's Exhibit No. 301

DU PONT CELLOPHANE COMPANY, INC.,
NEW YORK, N. Y.

16

BULLETIN #9

September 5, 1924.

SUBJECT: AMERICAN USERS OF CELLOPHANE

TO ALL SALESMEN:

Accomplishment is probably one of the best talking points for a salesman. It furnishes him with a background that is irrefutable by the concern he is trying to sell.

Accomplishment for Cellophane is in the number of concerns, the character of concerns and the variety of industries that have accepted and are using Cellophane in quantities.

In Bulletin #2, we gave you a list of the French users of Cellophane. We give you herewith a list of the American users of Cellophane.

Remember that this list must of necessity be incomplete, as we distribute Cellophane through jobbers.

Regardless of this fact, you will find the best known, thehighest grade and the most advertised concerns in their various fields are among the largest users of Cellophane.

Yours very truly,

O. F. Benz,

SALES MANAGER

OFB.D

M1061

CANDY

Huyler's
Walter M. Lowney Co.
F.H.Roberts(Apollo Choc.)
W.F.Schrafft & Sons
Happiness Candy Stores
Stephen F. Whitman
H.O.Wilbur & Sons
The Nunnally Co.
Bunte Bros.
The United Drug Co.
E.Greenfield's Sons
D.Auerbach and Sons
Kibbe Bros.Co.
Griggs,Cooper & Co.
Planters Nut & Choc.Co.
Reymer & Bros.
American Candy Co.
Robert A.Johnston Co.
Geo Ziegler Co.
H.D. Foss & Co.
Loft, Inc.
Runkel Bros.
Guggenheim & Co.
The Torraine Co.
Repetti
Walker Candy Corp.

Brown Cracker & Candy Co
Cox Confectionery Co.
Hollingsworth Candy Co.
Norris, Inc.
Palmer Candy Co.
Elmer Candy Co.
Fuerst & Kraemer
Chocolate Products Co.
A. E. Lamer Co.
Catawba Candy Co.
Dolly Vardon Chocolate Co.
Crane Chocolate Co.
Lovell & Covel
J. O. Gilbert
Wilfred J. Booth
Princess Confectionery Co.
Shoot Chocolate Co.
Durand Co.
George C. Miller Co.
Nuss Confectionery Co.
Barg & Foster Candy Co.
A. G. Morse Co.
Phoebe Phelps Caramel Co.
Queen Anne Candy Co.
Yorkman Candies
Samoset Chocolate Co.

SOAP

Armour & Co.

Graham Bros. Soap Co

DRIED FRUITS & NUTS

Hadjiyani & Co.
L. H. Davis

Lummis & Co.

POWDER PUFF

Universal Powder Puff Co.
Maurice Levy
I. Berman & Sons
Columbia Powder Puff Co.

S. Glemby's Sons Co.
Marcus & Smith
Monarch Specialty Mfg.Co.
Talmont Mfg. Co.

BAKERS

Loose-Wiles Biscuit Company

DRUGS

Bell Chemical Co.

United Drug Co.

M 1061

PERFUMES

Gordon Gordon
Coty
Houbigant
Richard Hudnut
Pritchard & Constance
The Andrew Jergens Co.
The Pompeian Co.

TEXTILE

Lapin Specialty Mfg. Co.
Rafelson Bros. & Son
Bernhard Ulmann Co.
Belden Bros.

TOBACCO

Benson & Hedges
Stephano Bros. (Phillip Morris)

MISCELLANEOUS

Crescent Mills Mfg. Co. (Cups)
Eugene, Ltd. (Hair Dressers)

M 1061

M 1061

Defendant's Exhibit No. 302

CC: Messrs Lee
Cullen

December 2, 1924

(61)

REFERRED TO
Mr. GROH
Mr. ALSOP
Mr. SULLIVAN

Mr. O. F. Benz,
Sales Manager.

Subject:- Comparative Strength and Gauge between Cellophane and Competitive Products

We have made some preliminary observations to learn how much weaker competitive products are than Cellophane. These observations were not carried out under absolutely constant conditions of temperature and humidity, and we are, therefore, not presenting the data as final. They do, however, strike closely enough to the truth to give an indication. It appears that the non-fibrous structure of Cellophane is responsible for its greater strength.

	Gauge in Inches	Bursting Strength (Mullen test) lbs. per sq. in.	Unit bursting Strength lbs. per sq. in. per unit thickness (0.001 in)
Ordinary Glassine (Avg. 3 tests)	.001	11	11
Transparent Glassine (Avg. 3 tests)	.001233	13	10.5
Parchment Paper (Avg. 3 tests)	.0023	13.3	5.78
Tin-foil (Avg. 3 tests)	.0006	2.	3.3
Aluminum Foil (Avg. 3 tests)	.0014	3	2.1
German Cellophane (Avg. 3 tests)	.00086	25.1	29.2
Am. 255 Plain White (Avg. 50 tests)	.0008	26.96	33.7
Am. 400 Unbleached (Avg. 20 tests)	.001122	40.7	36.3
Am. 600 Unbleached (Avg. 20 tests)	.001368	50.0	36.5
Am. 800 Bleached (Avg. 20 tests)	.002174	80.4	36.1

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You will note that in reporting the strength of these products we have converted the readings to a definite unit of thickness. We believe that this is necessary since it eliminates the unfair advantage in comparing a strong, thin sheet of Cellophane to a thick, weak sheet of some competitive material. We believe that the advisability of reporting results in this form will be perfectly obvious to you.

Ernest W. Ranger,

Chemical Director,

EWR:EK

By: W.

M5186

M 5186

Defendant's Exhibit No. 304

DUPONT CELLOPHANE

DU PONT CELLOPHANE COMPANY, INC.

NEW YORK N. Y.

January 13, 1928

DEAR DR. PICKENS:

For some time we have been working with the Beech-Nut Packing Company in an effort to interest them in moistproof Cellophane.

They had a batch several months and made tests and found them very unsatisfactory.

We took it for granted that the material they received might have been some of the old stock which was not up to standard so sent them a new lot comparatively recently.

Attached is a copy of their letter.

When they say "best waxed paper", they do not mean the type of waxed paper that Dr. Charch has from the National Biscuit Company, so we are at a loss to know just where the trouble is.

What we have done is to write to Mr. Ellithorp and accept his offer to have Mr. Sandel, one of their chemists, stop off to see Dr. Charch and any one else you may have who might be helpful in deciding just where the difference lies.

In our opinion it would be well to learn just what their method of testing happens to be and find out how it differs from yours. There must be some difference for them to develop such radically different results.

Accompanying our letter of introduction we have asked Mr. Sandel to bring along with him samples of the waxed paper they use for comparative purposes.

Your co-operation in straightening this problem out will be appreciated, and we should like very much to have Dr. Charch write us immediately after the visit from Mr. Sandel and give us the story.

O. F. B[illeted]
Sales Manager

sr

M 5187

Defendant's Exhibit No. 305

BEECH-NUT PACKING COMPANY

Canajoharie, N. Y.

Refer to JSE Jr of 1/10/28

Mr. O. F. Benz,
Du Pont Cellophane Company,
32nd, 33rd Sts. & 4th Ave.,
New York City.

Dear Mr. Benz:

Your new moistureproof cellophane does not begin to compare with our best waxed paper for moisture proof qualities. Our Laboratory will be glad to confer with your chemists at any time on this subject. The figures are available to show the relative moisture proof properties of cellophane and waxed paper.

On the other hand, we do want to say that your new moisture proof cellophane is practically as moisture proof as glassine waxed on one side. This naturally gives your product a fine entree into the small bag field.

It would be a pleasure to talk with your Chemists at any time but we hardly feel it would be necessary for all of us to make the trip to Buffalo. The Beech-Nut Packing Company chemist, Paul E. Sandel, could arrange to visit your Research Laboratory in Buffalo at any time. Will you kindly send us the proper letter of introduction?

Yours very truly,
BEECH-NUT PACKING COMPANY

J. S. Ellithorp, Jr.

M 5188

Defendant's Exhibit No. 306

Tickler to Dr. Benger

CC: Mr. E. F. Gladding
~~Dr. [illegible] Hyden~~
Dr. R. [illegible] Pickens
Mr. J. [illegible] Smith

Buffalo, N. Y.
January 9, 1930

To: Mr. J. K. Hatt, O. M.
Cellophane -- New York

C-41

From: W. H. Church

Subject: QUALITY OF MOISTUREPROOF CELLOPHANE

Reference: Your letter of January 7, 1930

We are in very substantial agreement with the point in your letter, above, that we should bend every effort to maintain the uniformly high moistureproofness of our present product. I believe the importance of this is pretty well appreciated by men in our department and in the Operations as well and, so far as it is within our knowledge to do so, I have every reason to believe that the same is being done. We shall touch on the question of permeability fluctuations later in this letter.

With reference to the comparative tests between Moistureproof Cellophane and Aqueline, run in New York, there may be one explanation for the apparent inferiority of Moistureproof Cellophane when cake was wrapped, whereas, presumably the same material, when used on rice flakes and tobacco, showed up normally. We know, quite definitely, that when Moistureproof Cellophane is used around articles such as fruit-cake, butter, cheese, etc. or any other article which is apt to contain in part or be composed almost wholly of greases of one kind or another, these greases have an adverse effect on the permeability of the coating on the side which is exposed. This means that, when the coating on one side of Moistureproof Cellophane becomes contaminated with grease, the moistureproofness of this coating will be impaired. The moistureproofness of the coating on the other side, however, is unimpaired and, in the majority of the instances with which we have been familiar in the past, it has appeared that a sufficient degree of moistureproofness was retained by the coating not affected by the grease to keep the Cellophane in the serviceable class. I do not know the nature of the cake which was wrapped in the test at New York, but it should be borne in mind that, if this cake contained any substantial amount of

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shortening, lard or grease and, if this grease were communicated to the coating next to the cake, we would expect a partial impairment of the moistureproofness of the coating so exposed. We have been confronted with this situation on two or three other occasions and we know no means of combating it or overcoming it. We have felt that we must rely on the moistureproofness of the coating on the reverse side, which is unaffected, for whatever protection will be afforded. This may or may not be an explanation of the test mentioned in your letter.

With regard to the Thomas D. Richards and Company complaint, it may be that they are asking for something which we do not produce at the present time. At least until we have further information about the nature of their trouble, we do not feel warranted in expressing any opinion on it.

With regard to the question of our defending our Moistureproof Patent, we have a claim which claims an article showing approximately a seven fold or greater resistance to the passage of moisture than an uncoated sheet. I believe this is the claim which, in any case, would have to be defended and upon which we would stand. In this connection, it should be pointed out that we have never at any time, even under the worst conditions of operation, produced any film which, even in minimum permeability, falls without this claim. In other words, in claiming a field of moistureproofness from seven fold upwards, we take in an extremely large territory and this claim was drawn deliberately to include such territory. Our average moistureproof value is between 100 and 200, conservatively, so that, in attempting to defend a claim which calls for a seven fold improvement, we have an enormous factor of safety.

With the start-up of the Old Hickory Plant, I think we are all familiar with the fact that, for some time, permeabilities there were somewhat erratic and somewhat low, due to variations in the amount of lacquer applied. When I last left Old Hickory, however, in so far as I could tell, these difficulties had been overcome and, at that time at least, the Old Hickory machine seemed to be producing, if anything, slightly better quality material than Buffalo. My point here is that, during these early days, Old Hickory undoubtedly did produce some material not up to standard, but that the condition has been largely corrected in the meantime.

M 5190

A rather close check on permeability is kept by the plants, in that not less than every other roll is tested at two different spots, so that we have on hand a set of figures which represents our moistureproof quality almost roll by roll. This is a part of the regular control routine and, I believe, a valuable part of it. In this connection, however, we have always experienced, even since early work on the small Semi-Works coating machines, fluctuations in permeability on either side of the average which were more than we would like. These fluctuations have not been so much on the lower side as they have on the high side. For illustration, if we were running an average permeability of 250 times better than Cellophane, variations may occur down to 150 or 100 but not much under this, if any at all. On the other hand, we are apt to find that other permeabilities will show a variation upward to 1000 or 1500 or even 2000. Just why we have been able to obtain such extremely high moistureproof values at different times has never been clear to us. We have collected observations of all kinds which we thought had a bearing on this, with the hope that, if we could touch on the variation which permitted us to get such high moistureproof material, we might be able to control it and so produce all of our material in this range. I regret that, inspite of all this work and thought which has been expended on this point during the past several years, we have come to no definite conclusions. There are so many variables which may enter into this picture and, apparently, these have eluded the ordinary methods which have been applied to detect them, but I am inclined to think that, if we were to run this point down definitely, it would be apt to involve a very extensive study and might be very costly. Thus far, we have never felt justified in undertaking work along this line because it was generally felt that, as long as we were to maintain our average moistureproof quality, we were making this product acceptable to the trade. We have adopted, on the other hand, however, a policy of being on the alert on other work and observations to attempt to pin down this elusive variable but, as stated above, our efforts thus far have been fruitless. In view of the intangible nature of this problem, there is considerable doubt in my mind whether even now we would be justified in directing efforts into a field which might turn out to be very expensive and to yield no results.

There is only one other point that we would like to make in connection with this discussion of permeability. I do not know whether others may agree with me on this point or not, but I have always felt that there has been a very distinct tendency on the part of the Sales Department, which

M 5190

appears to be shared by a number of our executives, to over rate the moistureproofness of Moistureproof Cellophane. I have frequently hear salesmen make statements as to the extremely high moisture resistance of Moistureproof Cellophane which I would hesitate, from any of my experience, to back up. I believe it is rather commonly referred to as being more moisture resistant than any other material on the market. I believe this is a rather dangerous statement to back up literally and I think it is also apt to be a somewhat dangerous statement which may become a matter of habit, for the reason that developements in waxed papers are being made and have been made over the past several years which have brought them up to a very high standard in certain specific instances. This latter situation has actually been the case in our own experience. When we started our Moistureproof Cellophane work five years ago, we were unable to find any waxed paper on the market which would give a permeability test as high as 100, even including certain high grade papers from the National Biscuit Company. In these early days, when we achieved permeability of from 100 to 200, we felt that we had exceeded practically anything on the market. The permeabilities of our Moistureproof Cellophane have not radically changed since that time, but it is significant that, in our survey of waxed papers during the past year, we found a number of samples which tested over 100 and, indeed, we found several which were practically on a footing with Moistureproof Cellophane. This improvement in waxed papers has been brought about largely through the use of certain waxes and, particularly, imported waxes during the past five years, which are superior to the average domestic product. For the above and a number of other reasons, we feel that there is a chance that there may exist a general tendency to over rate Moistureproof Cellophane, without taking into consideration the facts in the case. It is certainly true, on the other hand, that Moistureproof Cellophane will show a distinct improvement over at least 90% of competitive moistureproof wraps and we are willing to back this statement up rather strongly. We believe, however, that it would be well, in the future, in our enthusiasm, to not lose sight of certain definite limitations of the product and to thus find ourselves in an embarassing situation once in awhile, as a result of an unwarranted broad generalization, such as the common unqualified statement that Moistureproof Cellophane is superior to anything on the market.

We shall be glad to discuss this general question further with you at such time as we happen to be in New York.

W. H. CHURCH
ASSOCIATE CHEMICAL DIRECTOR

WHC:AWO

M 5190

Defendant's Exhibit No. 307

cc Mr. W. S.Carpenter, Jr.
Mr. L. A.Yerkes

DU PONT CELLOPHANE COMPANY, INC.

8 PARK AVENUE
NEW YORK CITY.

May 14th, 1930.

L. A. Y.

DR. FIN SPARRE, DIRECTOR,
DEVELOPMENT DIVISION,
WILMINGTON.

"VISOLITE"
S. D. WARREN PAPER CO.

Your letter of the 12th to Mr. Yerkes on this subject.

Visolite is a glassine paper that is slightly more transparent and clearer than the regular runs of high-grade glassine papers such as are used on packages like Lucky Strike cigarettes, etc. It has neither the strength nor the transparency, however, of Cellophane, and while an improvement over their former production of glassine papers, is still a long way from having the transparency or the possibilities that Cellophane has.

Incidentally, we are advised that the price is $.55 per pound which is the highest priced glassine we have come in contact with, and this price is so much closer to Cellophane's than other glassines, that its sale will be correspondingly retarded, we believe.

It is an indication, however, of the interest and desire of the paper manufacturers to improve the quality of their so-called transparent papers, and there is no question but that they are lending every effort toward this end.

We have had samples of Visolite for some weeks, and have had them in the hands of our Technical Department - particularly our Research Department doing work along similar lines - but so far we have not found any great use of this material or important accounts who have taken it up.

With the continued reduction in price of Cellophane, made possible by further increased production, this will be less important as a competitive factor.

Very truly yours,

M 5252

GENERAL MANAGER.

Defendant's Exhibit No. 308

CC: L.A.YERKES
[illegible]
[illegible]

Dec. 3, 1931.

R. K. GLADDING, G. M.
CHEMICAL DIVISION
BUFFALO

L. A. Y.

ATTENTION: W. H. CHURCH

RIEGELITE.

A short time ago your department indicated the samples of Riegelite you had received up to that time had been analyzed and you felt they were an infringement on our Moistureproof Patent and recommended action be started against them.

This has been held awaiting further progress on the part of Mr. Pritchard and the Wilmington Legal Department on our Moistureproof Patent matter.

In the meantime, we have found Riegelite is presenting samples of an improved material which they claim has been developed to dodge certain patents which they were aware of.

Fortunately, we have been able to secure a few of these advance samples and are submitting them herewith for your analysis and possibly that of Wilmington, with the hope you can promptly advise us whether or not this material is still infringing our Moistureproof Patent.

When you were in the office yesterday, I neglected to show you a group of cakes on my desk which were wrapped in Riegelite and other cakes wrapped in Moistureproof Cellophane, a comparison which is not discernable to the average person.

The Riegelite organization are announcing in all trade papers the Ward Baking Company have been won over to their new material, which they claim, is practically as transparent as anything on the market, equally as good from a moisture protection standpoint and very cheap. They also claim having made progress with other large baking organizations in the country.

M-104

There is no question but under present day conditions, and the desire on the part of the average manufacturer to sell his product for less, - if he can secure an economical packaging material which will serve his purpose and maintain his sales, he will make a change.

The outlook looks rather serious and Mr. Yerkes and Mr. Hatt are keen to have an expression from you as promptly as possible as to the characteristics of this newer material.

Incidentally, it is claimed the moistureproof and heat sealing qualities of this new Riegelite are much better than anything on the market at the present time and very comparable to Moistureproof Cellophane permeability factors. From the heat sealing point of view of course, it is very much of an improvement, than Moistureproof Cellophane.

The product is sold at 17¢ per pound and has an area factor, to the best of our knowledge, of slightly better than Moistureproof Cellophane.

O. F. BENZ

DIRECTOR OF SALES.

GB
ENC.

M-104

Defendant's Exhibit No. 309

December 4, 1931.

Mr. E.K. Gladding, General Manager,
Technical Department,
BUFFALO OFFICE.

COPY

Dear E.K.:

[redacted]

Benz wrote you a letter yesterday regarding the above. At the risk of repetition I want to give this thought to you which you may or may not have gotten from Benz' letter.

This stuff looks very serious to me. The first thing for us to determine is whether we can stop them patentwise, and that was the purpose of Benz writing to you and sending the samples, so that you and Pritchard and Biesterfeld can determine as promptly as possible whether we are going to start suit against these people or whether we are not.

If we are - well and good. If not, we then have to meet the question in some other way, probably by attempting the cheapening or thinning of our Cellophane and also probably by a resurrection of our own moistureproof paper project.

Incidentally, we have already lost in the baking business somewhere between 30,000 and 50,000 pounds per month, as nearly as we can judge.

Yours very truly,

11-103

LAY-ML

Defendant's Exhibit No. 310

Buffalo, N. Y.
December 7, 1931

TO: Mr. L. A. Yerkes
PRESIDENT
New York Office

FROM: E. K.Gladding

I am attaching a letter which we have received from the Riegel Paper Corporation, signed by J ie-gel, Vice-President.

You will note that they have taken advantage of our order for 150 lbs. of glassine paper to broach the subject of making an arrangement with us as regards the coating of glassine papers. The Riegel Company is one of the important glassine paper companies in this country, the Rhinelander Company being the other very important glassine manufacturer.

The Riegel Company is apparently quite progressive and their new "Riegelite" paper, which is a waxed glassine, is undoubtedly the nearest approach to a good transparency of any paper that is on the market. It is better in transparency than Transcello and Aqualeen. It is moistureproof to a factor of 90 and is sold for 17¢ per lb. with a covering area of 20,000 sq. in. per lb. This paper, being a waxed paper, smears very easily; however, it is the sort of product that will interest a number of our customers and I believe the Ward Baking Company is already using Riegelite to quite an extent.

The Riegelite is not by a considerable degree as transparent for tight wraps as is our coated tissue, and it is unquestionably true, as Mr. Riegel states, that they have done a great deal of work on the coating of papers. They undoubtedly have seen our moistureproof patents, and particularly our composition patent which has recently issued, and I imagine that the work which they have done experimentally runs against this patent. The Riegel Company is, therefore, interested in making some sort of arrangement whereby we pool our interests - they on the paper end and we on the coating end.

I think it is unquestionably true that they are an outstanding firm in paper technology and, on the other hand, I think that we know as much about moistureproof coatings as any other firm. To pool this information would undoubtedly result in a new, important business in the paper field, a field in which the paper companies would have the edge because of their familiarity with the paper trade.

EKG:JS

M-101

It is our patents that apparently are in the way of the paper companies' going into the manufacture of lacquer coated papers. Furthermore, we have probably six additional patents which will be filed shortly, all pertaining to the coating compositions and methods of treatment of paper for coating. This patent protection will probably mean much to us and I have a feeling that if a coated paper is to be exploited, an arrangement with the Riegel Paper Corporation whereby we could pull down some royalties might be to our advantage.

Mr. John Riegel is in New York, as you will note, at 342 Madison Avenue, and I would suggest that you or someone you wish to appoint find out what he has in mind. I realize that a good coated paper might make some inroads into the Cellophane business; nevertheless, I don't think that we can turn a deaf ear to the Riegel Company, at least until someone has had a chance to talk to Mr. Riegel.

E. K. GLADDING
GENERAL MANAGER
TECHNICAL DEPARTMENT

M-101

EKG:JS
Dict. but not read
Enc-1

Defendant's Exhibit No. 311

RIEGEL PAPER CORPORATION

342 Madison Avenue

New York

December 4,1931

Original of this letter returned to Glassine 4/4.

Mr. G.W. Oehler
DuPont Rayon Company
Station B,
Buffalo, N.Y.

Dear Sir:

We received your order No. 10727-A, Req. No. 7034 of November 20, for 150 lbs. of Glassine paper as per attached sample.

This paper was ordered in a 36" roll on a 3" core.

It occurred to us that you might be ordering this paper for the DuPont Cellophane Company to coat as you now coat to make moisture-proof Cellophane. While there is no reason why we should not supply you with the roll regardless of the purpose for which it is to be used, we are very much interested in such a moisture-proof coating and are taking this opportunity of bringing this to your attention.

We are naturally interested in developing as wide a market as possible for our glassine paper, and in that connection have done considerable experimenting on the coating of it. It would seem possible that your patented moisture-proof coating might be ideal for the purpose.

If there is any possibility of some such arrangement being effected, we would be very glad to discuss the matter with the proper authorities.

We are holding up the acknowledgment of your order until we hear from you.

Very truly yours,

RIEGEL PAPER CORPORATION

John L. Riegel
Vice-President.

JLR/BZ

M-102

Defendant's Exhibit No. 312

EXTRACT FROM NOVEMBER 1931 REPORT FROM EXECUTIVE COMMITTEE, DU PONT CELLOPHANE COMPANY TO EXECUTIVE COMMITTEE, E. I. DU PONT DE NEMOURS & COMPANY

DECEMBER 18, 1931

Competition - The outstanding competitive development is the introduction by the Riegel Paper Company of a new product - "Riegelite", a glassine of greater transparency and moistureproofness than any yet developed, and selling for 17¢ per pound. So far, this material has been competitive mainly in the baking industry where it has replaced Cellophane on low-priced low-profit items produced by several of the largest baking organizations. Due to its price and general characteristics, as well as the price-cutting situation on the part of members of the baking industry, this new product may be a very active competitor. We commented in our September 1931 Report that we believed the Riegel Paper Company were infringing one of our recently granted patents, but that, upon legal advice, it was decided not to serve notice of infringement until after the Sylvania suit had been filed.

M 5000

Defendant's Exhibit No. 313

DU PONT RAYON

DU PONT RAYON COMPANY

INCORPORATED

EMPIRE STATE BUILDING
350 FIFTH AVENUE
NEW YORK, N.Y.

VICE-PRESIDENT'S OFFICE

June 7, 1932.

Mr. B. L. Ward, Comptroller,
E. I. du Pont de Nemours & Co.
Wilmington, Del.

Dear Barney:

I have seen some correspondence between you and Clayton Albright in regard to some charges to "Undistributed Expense". Recalling your judicial mind I know you could come to your conclusion after very deliberate judgment only. I am interested, however, in knowing the processes of reasoning that you followed and the premises which governed. When is a field not a field? Are the charges to "Undistributed Expense" limited to such investigations as may be authorized by the Executive Committee? To put it in another way, is it the rule that any expense which a subsidiary may undertake at the instance of its management or its Board chargeable to the expense thereof, even though the subject of the investigation may be but remotely or indirectly of interest as applied to the particular field in which it is then engaged?

As an example, we are investigating a cheap moistureproof film or coated paper because of the competitive angle that they present to Cellophane. If we should decide to go into one of those it would be both a new process and a new product, but would it or would it not be a field in which the Company is not already engaged? If it is so engaged where, how and why?

Will you furnish me an example of what a subsidiary may undertake under category D that would be properly chargeable to "Undistributed Expense"?

D

Very truly yours,

Barney

M5253

BWW:HL

Defendant's Exhibit No. 314

June 9, 1932.

Mr. B. M. May, Vice-President
DuPont Rayon Company
New York, N. Y.

Dear Ben: RESEARCH EXPENDITURES-UNDISTRIBUTED EXPENSE

Your letter June 7th.

The process of reasoning used in determining the question, "when is a field not a field" is very simple, i.e., it is not a field when applied to a related line of products and is a field when applied to an unrelated line of products. For example, take your present project covering a cheap moisture-proof film or coated paper. You are in the business of manufacturing wrapping material and because of the competitive angle you are conducting research experiments to decide whether or not you should hold your position in the wrapping material trade by the adoption of a cheaper product. While it would probably be a new process and a new product it would be a related product and would be a field in which the company is already engaged.

We would consider any line entered into by you to uphold or defend your position in the wrapping material trade as belonging in Category "C" and chargeable to Cost of Manufacture or Research.

If you contemplate entering into a business entirely foreign to the wrapping material line--say, for example, cement, automobile tires, soap, etc., such research experiments engaged in would be properly chargeable to Undistributed Expense.

If we have not made our explanation plain to you, please advise and we will endeavor to go into the matter more specifically.

Very truly yours,

M5254

BLW:J

FILE COPY

✓ Defendant's Exhibit No. 315

cc: O. F. Benz
C. F. Brown
L. B. Steele
J. E. Hatt
L. A. Yerkes
B. M. May
W. H. Farmer
Sales Record

RETURN TO "CELLOPHANE" TRADE ANALYSIS

May 4, 1932.

ACTIVITIES OF COATED PAPER MANUFACTURERS APRIL 1932

"Riegelite" carrys an advertisement covering page #2 in "Baker's Weekly", featuring a 12¢ Grennan Cook-Book Cake in an exceptionally transparent wrap. It is stated here also that "Riegelite" will save the baker "as much as $1,065.00 per ton of transparent wrapping used."

SUBJECT - CITY - CLASS	INDUSTRY	REMARKS
Cox Baking Co., Jamaica, N.Y. 1-12	Baking	Experience with Riegelite has proven that it is too brittle and non flexible for machine wrapping. All items here under 20¢ are in a new waxed glassine called "Flexo" made by the Newark Parchment & Paper Co. This they find better than Riegelite for machine wrapping and better visibility. All cakes above 20¢ are in Cellophane.
Stroehman Bros., 1-8 Williamsport, Pa.	Baking	Advises that Mr. Karl Cox of Cox Baking Co. recommends the use of this new waxed wrapper called "Flexo" because it is stronger and seals more readily than Cellophane.
Ward & Ward, Inc. Buffalo, N.Y. 1-4 (Continental Baking)	Baking	Cellophane has been discontinued on a number of items in favor of Riegelite solely on the basis of cost.
Scotten Dillon Co., Detroit, Mich. 1-12	Tobacco	Will bring out a new pack of 50 cigarettes in a laminated glassine wrap.
General Baking Co., New York City. 1-12	Baking	Showed samples of printed Aquatone, an apparently improved material and developed to a higher degree of transparency - printed, 16¢ a pound compared to $1.00 for printed Cellophane.

M 5191

SUBJECT - CITY - CASE	INDUSTRY	REMARKS
R. Z. Spaulding, Binghampton, N.Y. 1-12	Bakery	Now experimenting with new Flexo-Aqualine made by Newark Parchment & Paper Co., @ 17¢ a lb. with same yield as Cellophane.
Great A. & P. Tea Co., Scranton, Pa. 1-4	Bakery	All products of bakery plant are now wrapped in waxed glassine.
Ex Lax Mfg. Co., Brooklyn, N.Y. 1-15	Drugs	"Aquatone" has kept subject's tin boxes of chocolate Ex Lax in better condition than 300 N.Y. Test was made in Panama over a period of three months. Results of test were as follows:

Wrap Used	Results
Aquatone	Chocolate pellets in excellent condition.
300 N.Y.	Dark brown color, some mold and broken coatings.
Double Wax	Badly molded, dark brown and inedible.
Single Wax	Some entirely dissolved or in powder stage.
No Wrap	All turned to powder and mold.

M5191

Defendant's Exhibit No. 316

CC: O.F.Bang
C.F.Brown
L.E.Steele
J.E.[illegible]t
L.A.Yerkes
B.M.May
N.H.Farmer
Sales Record

Coated Papers
2-32
June 8, 1932

DU PONT CELLOPHANE COMPANY

SALES RECORD SECTION

COATED PAPERS

MAY 1932

RETURN TO "CELLOPHANE" TRADE ANALYSIS

Dorst Baking Co., Savannah, Ga. 2-6.
Riegelite is being used on certain cake numbers. Cost of Cellophane is the only objection.

Loose Wiles Biscuit Co., Long Island City, N.Y. 1-18.
Subject stated they had examined a new sheeting by the name of "Transee", which they thought was very good. No samples, prices, quality or the maker were given.

White House Baking Co., Roxbury, Mass., 1-12, is in favor of Cellophane on all products but cost prohibits its use on 5¢ and 10¢ items, which are wrapped in "Riegelite".

New Standard Baking Co., Phila., Pa. 1-12, is using Riegelite on cheap line of unbranded cakes. This to meet competition, but not being pushed actively.

Grennan Cake Co., Cleveland, Ohio, 1-4, is using Riegelite because Chicago headquarters is shipping same. Admits advantages of Cellophane over other wrappers.

Great A & P Tea Co., Somerville, Mas. 1-6, stated it is costing them every bit as much to use Riegelite as printed M.T., because of large amount of brittle sheets averaging 50 lbs. per day. Riegelite also tears easily during the wrapping process.

Royal Baking Co., Phila., Pa., 2-6, is using practically all Riegelite on the basis of cost. Quarterly consumption is placed at 600#.

Great A & P Tea Co., New Haven, Conn., 1-12, has started to use Riegelite on lower priced items against their own will to do so. This appears to be only temporary, however, as they are sold on Cellophane more than ever.

Nashua Baking Co., Nashua, N.H., 3-4. Subject wrote Cox Baking Co., and protested the use of glassine on cakes which wholesale at 12¢, stating that his trade became suspicious of glassine believing that it covered an inferior cake and causing difficulty in selling them.

Cox Baking Co., Jamaica, N.Y., 1-12, advises that six of their other bakers who they supply, in addition to Nashua Baking Co., Nashua, N.H., had written to them strongly protesting the use of glassine and requesting the use of Cello hane again. Cox referred to all of these bakers as "Du Pont Cellophane Salesmen".

M 5192

Great A & P Tea Co., Springfield, Mass., 1-12, is conducting tests with Riegelite vs. Super Aqualine for donuts. Subject favors neither, compared with Cellophane.

D. Pender Groc. Co., Norfolk, Va., 1-12. Bakery department stated they temporarily went back to glassine, but had now returned to Cellophane. Mr. Miller, Mgr., of baking fought the use of glassine.

J. I. Kinney Baking Co., Albany, N.Y., 1-12, showed invoice on Riegelite - case of 26,000 sheets 18" x 21" weighing 565# and costing $4.10 per thousand sheets.

Chas. Freihofer Baking Co., Troy, N.Y., 1-12, is considering changing to Riegelite claiming it is "just as good" and considerably cheaper. Disadvantages were explained.

Purity Bakeries Corp., Chicago, Ill., 1-12. Ratio of Cellophane vs. glassine wrapped cakes is 5 glassine to 1 Cellophane. Subject purchases approximately 22,000# of Cellophane per quarter.

Continental Baking Corp., N.Y.C., 1-12, is not using "Riegelite", but a material that approximates it, known as "Super Aqua", an improved Aquatone, this because of the cost factor.

Mayer Bakery, Pottstown, Pa., 2-6, is buying about 500 lbs. per quarter of "Riegelite", solely because of the cheaper price.

MEAT PRODUCTS

Great A & P Tea Co., Brooklyn, N.Y., 1-12. All sliced bacon coming from the Bronx packing plant has been placed back in parchment paper. This was understood as the result of mold and odor problems. Cellophane for the Bronx plant is redistributed from the Brooklyn warehouse of subject.

M 5192

Defendant's Exhibit No. 317

CC: O. F. Benz
C. F. Brown
L. B. Steele
J. E. Hatt
L. A. Yerkes
B. M. May
W. H. Farmer
Sales Record

RETURN TO "CELLOPHANE" TRADE ANALYSIS

August 10, 1932

ACTIVITIES OF COATED PAPER

MANUFACTURERS

JUNE 1932

GENERAL

SUBJECT - CITY - CLASS	REMARKS
Rhinelander Paper Co. Rhinelander, Wisc.	Advertise a grease proof paper in the "National Provisioner"magazine for bacon squares. The objective is to stress the economy of using this wrap, pointing out it is a needless waste to pay for a moisture rpoof and grease proof wrap when only a grease proof wrap is required.
Kellog Paper Products, Chicago, Ill.	Advertises in the "Manufacturing Confectioner" a new wrap for candies called "Kelrax Papers" in either printed or plain. Properties are high gloss surface finish, transparent or label opaque background.
Trans Para Co. Div. of Rhinelander Paper Co. and Marathon Paper Mills Co. Rhinelander, Wisc.	Advertises a new transparent paper for economical wrapping which has new transparency and strength points, folds and handles easily. It is air-tight, moisture and grease proof. To the user of Cellulose film sheeting Transpara offers substantially lowered costs with only a slight decrease in visability, but with unimpaired protective qualities.

BAKED GOODS

Campbell Baking Co. Kansas City, Mo. 1-12	States that New York office has been recommending the user of "Super Aqualine" which they believe is more transparent than "Riegelite."

M 5193

SUBJECT - CITY - CLASS	REMARKS
Great A. & P. Tea Co. Louisville, Ky. 1-12	Presented cakes wrapped in Cellophane and "Riegelite", to sales department which in turn picked the latter on a cost basis. State also sales of cake did not suffer when they went out of Cellophane. Prices of cakes, however, were found to be reduced 20-25%.
The Newark Paraffine & Parchment Paper Co. Newark, N. J.	Features with a full page spread in "Bakers Weekly" their "Flexo Aqualine" wrapper claiming to keep cakes fresh for eight days, stressing eye-appeal, air-tight and moistureproof protection, economy and easy heat sealing.
First National Stores, Inc. Somerville, Mass. 1-24	Subject was surprised to learn that Riegelite cost almost as much as Cellophane on a square inch basis. Machine wastage also increased the cost of this material. Subject consumes approximately 7000# Riegelite per quarter.

M 5193

Defendant's Exhibit No. 318

cc: O. F. Benz
C. Y. brown
L. B. Steele
J. E. Hatt
L. A. Yerkes
B. M. May
W. H. Farmer
Sales Record

RETURN TO "CELLOPHANE" TRADE ANALYSIS

August 10, 1932

ACTIVITIES OF COATED PAPER MANUFACTURERS

July 15-30, 1932

BAKED GOODS

SUBJECT - CITY - CLASS	REMARKS
H. H. Clausen's Sons Augusta, Ga. 1-12	Have recently changed from M.T.S. to Ridgelite which they find very satisfactory. Stats it has reduced wrapping cost $500 per month.
Freihofer Baking Co. Troy, N. Y. 1-12	Placed an order for Ridgelite but reaction from consumers has been so unsatisfactory that they intend to exhaust supply and use Cellophane only. Unfavorable sales resulted from packages in Ridgelite.

M 5194

M 5194

Defendant's Exhibit No. 319

CC: O. F. Benz
C. F. Brown
L. B. Steele
J. E. Hatt
L. A. Yerkes
B. M. May
W. H. Farmer
Sales Record.

September 1, 1932.

DU PONT CELLOPHANE COMPANY

SALES RECORD SECTION

Activities of Coated Paper Manufacturers

AUGUST 1932

RETURN TO "CELLOPHANE" TRADE ANALYSIS

BAKED GOODS

SUBJECT - CITY - CLASS		REMARKS
Ot. A. & P. Tea Co. Somerville, Mass.	1-6	State they are having considerable breakage with Riegelite doughnut wraps. Paper is brittle, breaks and tears easily. Low cost of material is the sole reason for using.
Tasty Baking Co., Phila. Pa.	1-12	State that by changing from printed Cellophane to Riegelite on "HOME Maid" Cakes they have been able to increase the weight of the cake.
New Standard Baking Co., Phila, Pa.	1-12	Latest estimated use of Riegelite is placed at 10,000# per quarter, Cellophane also 10,000#. Riegelite is used on low priced unbranded cake units.
National Biscuit Co., New York, N. Y.	1-12	Small quantities of Riegelite are used on soft cake to meet competition where Cellophane exceeds margin of profit.
N.A. Matson Co., Minneapolis, Minn.	2-6	Purchased two months supply of a so-called "Cello-Wrap" material, manufactured by Repinwax Paper Co. of St. Paul, Minn. It is a wax paper that heat seals easily. Stated the cost is one tenth that of Cellophane which is obviously exaggerated
Crescent Cake Co., Phila. Pa.	1-12	Displayed new samples of Riegelite paper which supposedly has increased transparency. It appears that the protection value has been decreased in order to obtain a clear sheet. Price was quoted at 10¢ per lb. or approximately .01 per M Sq. inches.

MEAT

Cudahy Paking Co., Newport, Minn.	1-12	"Cell-O-Rap" glassine paper has also been submitted here as a sausage carton overwrap. No acceptance was indicated.

M 5195

CC: O. F. BENZ
C. F. BROWN
L. B. STEELE
J. E. HATT
L. A. YERKES
B. M. MAY
W. H. FARMER
SALES RECORD

RETURN TO "CELLOPHANE" TRADE ANALYSIS

DU PONT CELLOPHANE COMPANY

SALES RECORD SECTION

Activities of Coated Paper Manufacturers

September 1938

MEAT PACKING

Subject, City, Class, etc.	Remarks
H. P. Smith Paper Company, Chicago, Illinois.	Advertises with a full page in the "National Provisioner" their "White Oiled Loin Paper" for wrapping meats, particularly pork products. They also announce a recent 15% price reduction for their special papers used in the packing industry.
Rhinelander Paper Company, Rhinelander, Wisconsin.	With a double page spread in the "National Provisioner" and with a specimen grease-proof wrap for Armour Star bacon, subject takes the opportunity to feature the lower cost of their materials used in meat packaging.
CANDY	
Curtis Candy Company, Chicago, Illinois. 1-12	Subject states they are now paying as low as 18¢ per thousand for printed glassine wraps used on penny bars.
BAKED GOODS	
National Biscuit Company, New York City. 1-24	On low priced goods, subject has discontinued the use of Riegelite because of cost, and is now substituting a cheaper plain glassine. This has no effect on the present use of Cellophane.
"Riegelite"	Latest advertising copy for this material appearing in "Bakers Weekly" stresses the alleged fact that "Riegelite" is now stronger and more pliable. They state the success of Riegelite has been phenominal and is now being used in more than a thousand bakeries from coast to coast; saving as much as $1065 a ton in super-transparent wrapping costs.

M 5196

Subject, City, Class, etc.	Remarks
Newark Parraffine & Parchment Paper Co., Newark, New Jersey.	Features "Flexo Aqualine" in "Bakers Weekly" as airtight, moistureproof, and tested to keep cakes fresh as long as 8 days. Heat sealing and reduced cost is also stressed.
Liberty Baking Company, Pittsburgh, Pa. 1-12	Subject stated they have decided to discontinue Cellophane for the time being, to make sales test with Riegelite. They admit advantages of Cellophane as a wrap, but claim they are losing money on 5¢ cake items which is their big volume. If sales decline in Riegelite, Cellophane may be returned. Subject to date this year has bought 9,557 pounds of Cellophane compared with 8,988 pounds to date last year.

MISCELLANEOUS

George B. Hurd Company, New York City. 2-12	Stated they are investigating a new gelatin coating which is on the market for spraying the tops of stationery boxes to give the same effect and appearance as Cellophane. No statement of results or names of manufacturers were given.

M 5196

EH.

M 5196

Defendant's Exhibit No. 321

CC:O.F.Benz
C.F.Brown
L.B.Steele
J.E.Hatt
L.A.Yerkes
B.M.May
W.H.Farnum
Sales Record

November 4, 932.

ACTIVITIES OF COATED PAPER MANUFACTURERS

October 1932.

Baked Goods.

RETURN TO "CELLOPHANE" TRADE ANALYSIS

Subject	Remarks
Liberty Cake Co. Philadelphia, Pa. 1-12	Makers of Riegelite give subject concern a page spread in Bakers' Weekly Magazine quoting Mr. Edwin Mayer, Proprietor as stating "I changed to Riegelite and now save $300.00 per week." Our records on this account show that Riegelite is now being used on all wrapped cakes. In 1931 subject bought a total of 22,331 pounds of Cellophane direct, and to date this year only 368 pounds have been recorded. Because of credit situation, Du Pont refuses to ship Cellophane on open account.
National Biscuit Co., Newark, N.J. 1-4	Subject has recently changed from Riegelite to a cheaper wax paper on low priced highly competitive goods. They allege Riegelite discolors when out on the market for any length of time.
Hostess Cake Company Somerville, Mass. 1-4	This subsidiary of Continental Baking Co. states that New York offices have ordered the return to the use of Riegelite for cake wrapping since we have withdrawn our 40% discount on M.T. Seconds. Subject states they are sorry to lose the attention getting value of Cellophane, and hopes they may be permitted to return to it in the near future. They report their sales to be considerably less in glassine. For the first 9 months of this year Hostess Cake has purchased 12,871 pounds of Cellophane direct while for the like period last year 31,077 pounds were purchased direct.

M 5197

Subject		Remarks
New England Bakery Somerville, Mass.	1-4	Subject also a subsidiary of Continental Baking Company likewise states that parent company will ship no more Cellophane until cost permits. This because of our withdrawal of 40% discount on M.T. Seconds. Wax glassine will replace Cellophane on their cake items. New England Bakery is a relatively small user of Cellophane purchasing 736 pounds in 1931 and 450 pounds direct to date this year, but this information tends to confirm that given by Hostess Cake Company and other Continental Baking Company subsidiaries
Liberty Baking Company Pittsburgh, Pa.	1-12	Subject has recently changed all cakes from Cellophane to Megelite on a test basis. Daily changes in sizes of cake and ease of machine application with heat seal are given as the reasons for this change. They also state that under present conditions cakes in M.T. Cellophane were not showing a profit. They have agreed to make a trial run with M.S.T. stock. Subject has purchased Cellophane every month this year to date for a total of 5,517 pounds, while for a like period of last year, 3,988 pounds were purchased direct.

CANDY

Subject		Remarks
Smith Brothers Poughkeepsie New York	1-12	Claim they have recently adopted an improved glassine for their cough drops package "almost as transparent as Cellophane." Our representative suggested laboratory tests to make comparative keeping qualities of this glassine with those of Cellophane. No names of this material or producers were given.

M 5197

Miscellaneous

Subject		Remarks
Proctor & Gamble Cincinnati Ohio.	1-12	Development tests on P.T. Cellophane with respect to shortening compounds have been dropped indefinitely here and at all P & G plants as it is impossible to figure costs on the basis of first quality Cellophane. In addition new reductions in the prices of parchments has thrown Cellophane completely out of line.

1743-A

FILE COPY

M 5197

Defendant's Exhibit No. 322

CC: O.F. PENZ
C.F. BROWN
L.B. STEELE
J.E. HATT
L.A. YERKES
R.M. MAY
W.H. FARMER
SALES RECORD

RETURN TO
"CELLOPHANE"
TRADE ANALYSIS

December 8th, 1932.

ACTIVITIES OF COATED PAPER MANUFACTURERS

NOVEMBER - 1932

SUBJECT	REMARKS
Thomas M. Royal & Company, Philadelphia, Pa.	A full page advertisement is given to a new glassine bag developed for use on Bakery Products. The material used in making this bag is called "Super-Duowax", made with two sheets of "Riegelite" between which is a heavy film of wax, affording greater strength than is found in a wax coated glassine sheet. The so called "five star" features of this new bakery wrap are, according to Thomas M. Royal & Company: 1. More plastic. 2. Stronger. 3. Printing is fast. 4. More transparent. 5. More moistureproof.
Axton Fisher Tobacco Company, Louisville, Ky., 11/15/32 1-12.	The glassine wrap on the 10¢ pack of "Twenty Grand" cigarettes has been discontinued over the protest of dealers. It is explained that rapidly increasing volume and lack of wrapping machines are the reasons for this move. In addition, they do not care to gamble on investment of new wrapping equipment for 10¢ cigarettes at this time.

M 5198

GENERAL

The following is taken from the December issue of "Modern Packaging."

"The Bureau of Standards has approved a simplified schedule for waxed oil paper. Waxed paper covered by this recommendation is made by passing full-bleached all-sulphate or other wood-fibre paper through a bath of paraffin wax in order to fill the pores of the paper to make it resistant to moisture and to odors. When used as a sealed wrapper it also protects food products from dust and vermin. Probably the greatest uses are for promoting sanitary handling and shipping of foods, to prevent contact with germ-bearing agencies, and to preserve freshness during long-distance transportation. The familiar bread wrapper is a typical example. It has been estimated that its use has resulted in large savings by reducing the return of stale bread. Waxed paper is also used for the protection of other perishable foods, such as biscuits, cakes, sandwiches, cereals, candy, meats, potato chips, sugar, salt, flour, jello powders, cheese, butter, raisins, dates, berries, vegetables, etc. The estimated total value of the annual production of waxed paper is $25,000,000. The volume exceeds 250,000,000 pounds per annum.

Of special interest is the recommended elimination of the 400-sheet ream which has been in use in certain sections of the country. Those members of the industry who sponsor the recommendation believe that the elimination of inferior quality paper and wax will insure a better product to the consumer. Concentration on the reduced number of sizes should be of assistance to the manufacturer in improving his products."

EG:EVW

M 5198

Defendant's Exhibit No. 323

October 18, 1932.

Mr. E.K. Gladding, Asst. General Manager,
Technical Department,
BUFFALO OFFICE.

RANSPARENT PAPERS

1844

I have read your letter of the 17th regarding the above subject. I am sorry to say that I quite thoroughly disagree with your position in this matter. It is obviously a question of judgment, as there are multitudinous arguments on both sides of the fence.

My own belief is that the Du Pont Company will definitely decide not to go into the paper business, either alone or with anybody else, but will decide to sell any lacquers, sizing or finishing materials that they make to the paper trade. I think Wescott's report indicates very clearly that this should be done.

There is no reason that I can see for attempting to put Cellophane in a glass case and stop everybody from throwing bricks at it. Nor is there much possibility that we could develop a transparent paper which would at the same time protect Du Pont Cellophane and be better than any that the hundreds of paper manufacturers would be able to develop.

We are not going to be able to stop paper manufacturers from attempting to make a substitute for Cellophane, nor in my opinion are we in a position, even with the Experimental Station's help, to do this job as well as the paper people themselves could do it. We, on the one hand, would be the Cellophane Research plus the Experimental Station; on the other side of the picture would be all the paper manufacturers in the country, plus all the chemical and lacquer manufacturers. It would certainly be a losing battle for us in my opinion.

I am in favor of spending research money to the nth degree on the improvement of Cellophane and on reducing the cost of manufacturing Cellophane, and I am also in favor of what I think we will decide to do - let down the bars for Bill Richter to sell any lacquers or other materials that he wishes to the paper trade.

I feel that we should drop this subject, and I am therefore not approving this Part 4 of Project CS-168.

LAY-ML PRESIDENT. M5255

Defendant's Exhibit No. 324

Form R-1[illegible]

DU PONT

ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE

"CELLOPHANE" DIVISION

September 16th, 1938

TO: [illegible] HORSEY

~~T. L. [illegible]~~

H. O. THAYER, Buffalo

W. H. CHARCH, Buffalo

FROM: W. O. HENDERSON,
Sales Section.

New Films

Subject: GOODYEAR'S TRANSPARENT RUBBER SHEETING

Attached you will find a copy of the report on the subject film, which was prepared at the request of the New Films Committee at their meeting of June 15, 1938.

WOH:

3335

"Cellophane" is a trade mark and should be spelled with a capital "C"

GOODYEAR'S TRANSPARENT RUBBER SHEETING

THIS FILM, BEARING THE TRADE NAME OF "PLIOFILM," IS MANUFACTURED BY THE GOODYEAR TIRE & RUBBER COMPANY, AKRON, OHIO, UNDER THE BASIC PATENT U. S. #1,939,632.

SALES HISTORY

1934 - FIRST MENTION MADE OF THIS FILM, BUT NO ACTIVE SOLICITATION OF TRADE.

1935 - INTRODUCTORY LETTER SENT THE TRADE. A SMALL NUMBER OF OUR CONVERTERS AND DIRECT SALES CUSTOMERS WERE CONTACTED.

1936 - A CONCERTED DRIVE WAS MADE ON OUR CUSTOMERS - 42 DIRECT SALES AND 7 CONVERTERS BEING CONTACTED.

1937 - WHILE ONLY 22 DIRECT SALES CUSTOMERS WERE COVERED, THEIR CONVERTER CONTACTS JUMPED TO 14. THEY CONCENTRATED ON CONVERTERS WHO COULD MAKE PRODUCTS REQUIRING SEWING. MARKED PROGRESS WAS MADE IN THE UMBRELLA, RAINCOAT AND GARMENT COVER FIELDS.

1938 - THEY ARE CONTINUING CONVERTER CONTACTS AND, IN ADDITION, ARE BECOMING ACTIVE AGAIN ON DIRECT SALES COVERAGE.

SALES ORGANIZATION

WHILE WE DO NOT KNOW THE SIZE OF THEIR SALES ORGANIZATION, IT IS BELIEVED THEY ARE MUCH MORE ACTIVE IN THEIR SALES COVERAGE. AT FIRST THEIR TRADE CONTACTS WERE LARGELY

M 845

MADE BY PROMOTIONAL MEN WHO MOVED FROM ONE SECTION OF THE COUNTRY TO ANOTHER. ABOUT A YEAR AGO, THEY TOOK ON A FORMER SYLVANIA SALESMAN TO COVER THE CHICAGO TERRITORY, AND RECENTLY EMPLOYED A FORMER "CELLOPHANE" SALESMAN FOR THE NEW YORK TERRITORY.

AS A FURTHER INDICATION OF THEIR INTENTION TO ACTIVELY PUSH THEIR RUBBER SHEETING, A SALES SERVICE SECTION WAS ORGANIZED ABOUT A YEAR AGO UNDER THE DIRECTION OF DR. J. E. SNYDER WHO WAS FORMERLY CONNECTED WITH THE SALES SERVICE SECTION OF THE "CELLOPHANE" DIVISION. BECAUSE OF HIS EXTENSIVE "CELLOPHANE" EXPERIENCE, WE MAY BE ASSURED HE WILL SEE THAT ONLY LOGICAL MARKETS ARE EXPLORED. THIS MEANS THEIR SALES EFFORTS WILL BE ON A SOUND BASIS.

MARKETS

DIRECT SALES

THESE PRODUCTS ARE BEING SOLICITED:

- BAKED GOODS
- BUTTER
- CANDY (HARD)
- DESSERTS (OVERWRAP CARTON)
- DUST CLOTHS
- LINER CITRUS FRUIT CASES
- MILK BOTTLE CAPS
- PAPER PRODUCTS
- RAZOR BLADE CARTONS
- SHIRTS

CONVERTER

THESE PRODUCTS ARE NOW BEING MANUFACTURED:

- BATHING CAPS
- BRIDGE TABLE COVERS
- COVERS FOR ELECTRIC MIXERS, PERCOLATORS, ETC.
- ENVELOPES FOR LINGERIE, ETC.
- FOOD JAR COVERS
- GARMENT COVERS

M 845

LINERS FOR BOTTLE CAPS
RAINCOATS AND CAPES
RIBBONS
SANITARY NAPKIN LINER
SHOULDER GARMENT COVERS
SHOWER CURTAINS
UMBRELLAS

ADVERTISING AND PROMOTION

(A) AT THE PACKAGING SHOW IN CHICAGO LAST MARCH, THEY HAD A SMALL BOOTH. THIS WAS THE FIRST DISPLAY OF WHICH WE HAVE KNOWLEDGE.

(B) STORE ADVERTISING

A SUBSTANTIAL AMOUNT OF NEWSPAPER ADVERTISING HAS BEEN DONE DURING THE PAST SIX MONTHS BY STORES FEATURING PRODUCTS MADE FROM THIS FILM. (THE USUAL CUSTOM IS FOR MANUFACTURER TO PAY FOR PART OR WHOLE OF THIS TYPE OF ADVERTISING, SO WE ASSUME GOODYEAR IS DOING SO.) THIS IS FURTHER EVIDENCE OF AN INCREASING SALES AGGRESSIVENESS. ADVERTISEMENTS HAVE BEEN ACCUMULATED FROM THE FOLLOWING NEWSPAPERS:

CHICAGO TRIBUNE
MILWAUKEE JOURNAL
NEW YORK DAILY AND SUNDAY NEWS
NEW YORK HERALD TRIBUNE
NEW YORK TIMES
PHILADELPHIA PUBLIC LEDGER
RICHMOND NEWS LEADER

SOME ADVERTISING IS ALSO BEING DONE IN TRADE PAPERS. ADVERTISEMENTS WERE SECURED FROM THE FOLLOWING:

CHAIN STORE AGE (ADVERTISEMENT BY ROYALTY TEXTURE COMPANY, PITTSBURGH)
MODERN PACKAGING (ADVERTISEMENT BY GOODYEAR ON BAGS)

M 845

TYPES OF FILMS

THERE ARE TWO DIFFERENT TYPES BEING MANUFACTURED:

(A) STANDARD PLASTICIZER
(B) SPECIAL PLASTICIZER

THE LATTER IS MORE STABLE THAN THE FORMER, STANDING UP LONGER IN SUNLIGHT AND ULTRA VIOLET RAYS WITHOUT BECOMING BRITTLE. THEY MANUFACTURE A LINE OF COLORED FILMS FOR BOTH PLASTICIZERS.

SALES IN POUNDS

THESE CONVERTERS REPORTED TO US IT WAS THEIR UNDERSTANDING GOODYEAR WAS PRODUCING THE POUNDAGE SHOWN:

DODECKMUN COMPANY	REPORTED	5,000# - 10,000# PER DAY
FREYDBERG BROTHERS	"	10,000#
SHELLMAR PRDUCTS COMPANY	"	200,000# - 250,000# PER MO.

WHILE THERE IS CONSIDERABLE VARIANCE IN THESE FIGURES, THEY TEND TO BEAR OUT THE PRODUCTION FIGURE OF 2,000,000 POUNDS PER ANNUM MENTIONED IN AN ARTICLE APPEARING TH'S SUMMER IN THE CLEVELAND NEWS.

PRICE PER POUND FOR ROLL STOCK

PLAIN TRANSPARENT	500# AND OVER	100# TO 500#	SQ. INS. PER POUND
#100	$ .65	$ .75	25,000
#120	.70	.80	21,000
#140	.75	.85	18,000
#170	.90	1.00	14,000
#250	1.40	1.50	10,000

THE ABOVE PRICES ARE BASED ON FILM MADE WITH THE STANDARD PLASTICIZER. SPECIAL PLASTICIZED GRADES ARE FURNISHED IN ALL WEIGHTS, EXCEPT #100 AND COSTS FROM 10¢ TO 15¢ MORE PER POUND. COLORS COST 10¢ MORE PER POUND THAN FOR THE PLAIN TRANSPARENT.

M 845

CUT-TO-SIZE SHEETS COST APPROXIMATELY 30% MORE PER POUND THAN ROLL STOCK.

"PROS" AND "CONS" OF PERFORMANCE (FROM LABORATORY AND FIELD TESTS)

ADVANTAGES

RESISTANCE TO TEARING.

INHERENTLY MOISTURE AND WATERPROOF.

NON-DEFORMING (DOES NOT CONTRACT OR EXPAND WITH CHANGES IN HUMIDITY).

GREATER TENSILE STRENGTH THAN VISCOSE SHEETING.

DISADVANTAGES

TOO PLIABLE FOR USES WHERE THERE IS A STRAIN IN APPLICATION.

BECOMES VERY BRITTLE AT LOW TEMPERATURES - DURABILITY LESS THAN "CELLOPHANE".

BECOMES EXTREMELY BRITTLE WHEN EXPOSED TO SUNLIGHT OR ULTRA-VIOLET RAYS. THIS APPLIES MORE TO THE STANDARD RATHER THAN SPECIAL PLASTICIZED FILM.

HAS RUBBER ODOR - THERE HAS BEEN A NOTICEABLE IMPROVEMENT LATELY.

SOMETIMES HAS SMOKY CAST.

TURNS WHITE WHEN STRETCHED.

MORE DIFFICULT TO SEAL THAN "CELLOPHANE" HAS NARROW RANGE OF SEALING.

MELTS AT RELATIVELY LOW TEMPERATURE.

STATIC MAKES HANDLING DIFFICULT.

NON-UNIFORM IN QUALITY - WIDE VARIATION IN DURABILITY.

SOME OF THESE DISADVANTAGES, SUCH AS ODOR, ARE NOT SERIOUS AND WILL, IN ALL PROBABILITY, BE OVERCOME TO A LARGE EXTENT AS PRODUCTION AND USE INCREASE. ON THE OTHER HAND, BRITTLENESS AT LOW TEMPERATURES IS A SERIOUS DISADVANTAGE.

M 645

TO CHECK OUR LABORATORY TESTS ON PERFORMANCE, WE CONTACTED THE FOLLOWING CONCERNS WHICH ARE HANDLING PRODUCTS MADE FROM THIS FILM, AND QUESTIONED THEM ON THEIR CUSTOMERS' REACTION.

ABRAHAMS & STRAUSS, BROOKLYN, N. Y.
W. T. GRANT COMPANY, NEW YORK, N. Y. (HEADQUARTERS)
LORD & TAYLOR, NEW YORK, N. Y.
STERN BROTHERS, NEW YORK, N. Y.
GIMBEL BROTHERS, PHILADELPHIA, PA.
N. SNELLENBURG & COMPANY, PHILADELPHIA, PA.
STRAWBRIDGE & CLOTHIER, PHILADELPHIA, PA.
JOHN WANAMAKER, PHILADELPHIA, PA.

THESE CONCERNS, WITH THE EXCEPTION OF STERN BROTHERS, REPORTED VERY FEW COMPLAINTS ON THE PART OF THEIR CUSTOMERS. STERN BROTHERS HAD NOT HANDLED THE LINE LONG ENOUGH TO HAVE AN ACCURATE PICTURE.

THIS MANUFACTUER OF UMBRELLAS REPORTED THE FILM BECAME VERY BRITTLE AT LOW TEMPERATURES, AND SOMEWHAT BRITTLE AT VERY HIGH TEMPERATURES. GENERALLY, HOWEVER, THE FILM SEEMED SATISFACTORY.

P. AN KATZ & COMPANY, BALTIMORE, MD.

BUSINESS LOST TO TRANSPARENT RUBBER SHEETING

SOME BUSINESS, PARTICULARLY FROM CONVERTERS, HAS BEEN LOST TO RUBBER SHEETING THROUGH THE REPLACEMENT OF "CELLOPHANE" BY IT. BELOW ARE LISTED A FEW CONCERNS ON WHICH WE HAVE A RECORD OF THIS OCCURRING:

[illegible] SON COMPANY, ST. LOUIS, MO.
REPLACED #300 PT FOR BAG LINING.
VOLUME ABOUT 4,000# PER ANNUM.

I. FLEISCHER SONS COMPANY, CINCINNATI, OHIO.
REPLACED #600 PT FOR GARMENT COVERS.
VOLUME ABOUT 3,500# PER ANNUM.

M 845

SUMMARIZING

(A) PRODUCTION

HAS INCREASED DURING PAST TWO YEARS FROM 1,200 POUNDS TO 5,000 - 10,000 POUNDS PER DAY.

(B) QUALITY

HAS GREATLY IMPROVED. THE SPECIAL PLASTICIZED FILM STANDS UP SATISFACTORILY. THE RUBBER ODOR IS MUCH LESS NOTICEABLE.

(C) SALES

HAVE INCREASED CONVERTER SALES, IN SOME CASES CUTTING INTO OUR CONVERTER BUSINESS. THEY HAVE ESTABLISHED A SALES SERVICE SECTION, AND ARE NOW ACTIVELY SOLICITING DIRECT SALES, AS WELL AS CONVERTER BUSINESS.

(D) ADVERTISING AND PROMOTION

HAD DISPLAY AT PACKAGING SHOW, CHICAGO, THIS YEAR.

CONVERTER PRODUCTS ARE EXTENSIVELY ADVERTISED IN NEWSPAPERS. BOTH CONVERTERS AND ALSO GOODYEAR ARE ADVERTISING IN TRADE MAGAZINES.

W. O. Henderson

W. O. HENDERSON

M 845

PROTEX PRODUCTS COMPANY, JERSEY CITY, N. J.
REPLACED COC PT FOR GARMENT COVERS.
VOLUME ABOUT 4,000# PER ANNUM.

GENERAL SPORTS COMPANY, INC., CHICAGO, ILL.
REPLACED #300 MT BAGS GOLF CLUB HEAD COVERS. VOLUME 1,200# PER ANNUM.

IN ADDITION, MANUFACTURERS OF GARMENT COVERS FROM RUBBER SHEETING HAVE CUT INTO THE BUSINESS OF CONCERNS USING "CELLOPHANE". AN EXAMPLE IS THE CONCERN NOTED BELOW WHOSE PURCHASES OF "CELLOPHANE" HAVE DECREASED AS COMPARED WITH LAST YEAR:

ECONOMY COVER COMPANY, CHICAGO, ILL.

FIRST 8 MONTHS PURCHASES DOWN FROM 46,000# IN 1937 TO 30,000# IN 1938.

THIS LOSS IS DIRECTLY TRACEABLE TO THE FAILURE OF VISCOSE SHEETING TO PERFORM SATISFACTORILY.

THIS CONVERTER IS ADDING A LINE OF RIBBONS AND CORDS MADE FROM RUBBER FILM:

FREYDBERG BROTHERS, NEW YORK, N. Y.

THEY ARE THE LARGEST MANUFACTURER OF "CELLOPHANE" RIBBONS IN THE COUNTRY AND ONLY WENT TO RUBBER FILM FOR THE VEGETABLE AND FLORAL TRADES, AND OTHER PLACES WHERE A MOISTUREPROOF RIBBON IS REQUIRED, AFTER TESTING EVERY TYPE OF FILM WE COULD SUPPLY THEM.

THE MAIN REASONS FOR THE SWITCH TO RUBBER SHEETING ARE:

(A) ITS RESISTANCE TO TEAR PERMITS SEWING.

(B) ITS INHERENT MOISTURE AND WATERPROOFNESS.

(C) IN THE CASE OF RIBBONS, ITS TOUGHNESS - - KNOTS AND BOWS CAN BE MADE WITHOUT DANGER OF BREAKAGE.

(M 845

Defendant's Exhibit No. 325

CC: O. F. Benz

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE

"CELLOPHANE" DIVISION

November 1, 1938

TO: Messrs. R. M. Horsey
T. L. Hines
H. O. Thayer, Buffalo
W. H. Charch,

FROM: W. O. Henderson,
Sales Section.

Subject: THREAT TO "CELLOPHANE" SALES FROM GOODYEAR'S RUBBER SHEETING

Based upon the assumption it will eventually be possible for Goodyear to make a transparent rubber film which is practically odorless, durable at low temperatures and can be handled satisfactorily on wrapping machines, this sheeting becomes a possible threat to the following industries which consumed in 1937 approximately the poundage of "Cellophane" shown.

Candy (hard)	500,000 pounds
Chewing Gum	800,000 "
Cigars	2,700,000 "
Cigarettes	10,000,000 "
Cheese and Butter	1,000,000 "
Crackers and Biscuit Cartons	1,500,000 "
Dessert Powder Cartons	100,000 "
Drugs (hygroscopic powders and cough drop cartons)	500,000 "
Foods (Pop Corn, etc.)	150,000 "
Frozen Foods	500,000 "
Fruit and Vegetables (fresh)	100,000 "
Meat Industry (wrapping meat carcasses, etc.)	120,000 "
Noodles and Macaroni	500,000 "
Paper Products	1,000,000 "
Textile (Wash Goods, Bolt Goods, Shirts, etc.)	650,000 "
Tobacco (smoking and chewing)	2,000,000 "
Converters: Ribbons, Shoulder Covers, Garment Bags, Covers, Container Liner, etc.	1,000,000 "
Total	23,120,000 pounds

M846

M 946

12005

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE

"CELLOPHANE" DIVISION

Messrs. Horsey, Hines, Thayer and Charch
concluded

In considering the various industries where rubber sheeting could very logically be used, we have only taken those uses where its inherently moistureproof qualities assure better protection and appearance. Furthermore, we have only considered present uses - not future potential.

At the present time, as pointed out in the writer's report of September 16th on "Goodyear's Transparent Rubber Sheeting", we are actually losing business to this film. Some of these losses are as follows:

Garment Covers	28,000 pounds
Bag Linings	4,000 "
Individual portions hygroscopic powders	30,000 "

This would seem to indicate it can cut in on our present "Cellophane" where the physical properties are advantageous. Given, as previously pointed out, certain improvements in the film, it could quite possibly become a threat to a very substantial percentage of our present sales.53

M 846

WCH:EVP

M 846

Defendant's Exhibit No. 326

October 9, 1939

TO: A. F. WENDLER

FROM: H. D. HARRINGTON

Subject: RUBBER FILM

Ref: Our letter June 28, 1939

A condensed summary of data received on the subject production is presented in the following:

Drexel Service Co. - Chicago

3/10/39 - use rubber film because of superior protection offered to peanuts. Peanuts in "Cellophane" and glassine degraded heavily in three weeks whereas those in rubber were still edible.

Rubber film cannot yet be printed nor run on an automatic machine.

6/1/39 - not satisfied with "Cellophane" and use bags made of rubber film.

6/19/39 - rubber film used because of superiority over "Cellophane".

Procter & Gamble - Chicago

3/17/39 - customer says rubber film is out because of unsatisfactory machine operation.

4/5/39 - claim rubber film is more moistureproof than "Cellophane" but lacks lustre and loses strength.

Loose-Wiles Biscuit Co. - Long Island City

3/17/39 - customer laboratory tests show rubber film is better, in protection, than double walled bags of "Cellophane".

4/24/39 - leaning toward rubber film on one or two items.

Shefford Cheese Co. - Green Bay, Wisconsin

4/4/39 - packages of cheese, exhibited by J. D. Baker, in printed

M5256

A. F. WENDLER
continued

rubber film showed disintegration of film.

6/22/39 - use 16,000 lbs. of Goodyear film annually - 8,000 lbs. are printed by Shellmar.

New Foods Co. - Chicago

2/27/39 - in packaging of hygroscopic product (puffed corn in caramel-candy and Cheese Trix) customer tests show rubber is only film that is satisfactory.

4/4/39 - report satisfattory operation of Goodyear film on Transwrap machine. A second machine is on order.

Samples of product obtained for test by Technical Department.

7/10/39 - inquired as to results of Buffalo tests.

Advised that data gave contradictory results and additional samples secured for S.S.S. laboratory tests.

Borden & Company - New York City

3/27/39 - claim rubber film gave absolute protection to cheese coating. Tests active.

5/10/39 - cannot get satisfactory protective sheet against caking of malted mil tablets. Tested foil laminated to wax paper and also Parafilm. Plan to test Goodyear film.

Rosenberg Bros. - San Francisco

3/27/39 - Pickering concluded from conversation that film being tested on bulk merchandising of dried fruit was rubber film. Tests not yet completed.

5/18/39 - tests on rubber film were negative.

Customer reluctant to give details, but definitely stated no further consideration was being given to rubber film.

M-256

A. F. WENDLER
concluded

Waitt & Bond, Inc. - Newark, New Jersey

4/14/39 - use rubber film as cigar box overwrap. Claims it keeps cigars fresher for longer periods of time.

5/9/39 and 6/21/39 - same reports.

The Shaler Co. - Waupun, Wisconsin - Tire Patches

5/3/39 - claim rubber film better than MSC "Cellophane". MSC did not seal properly on machine.

5/23/39 - customer states laboratory tests indicated rubber film was superior to "Cellophane" on basis of moistureproofness and durability over a period of time.

6/19/39 - agreed t test rubber film by exposing to light.

9/5/39 - customer tests have satisfied them as to superiority of rubber over "Cellophane". Tested 300 Special MST, but find no$ improvement. Willing to test 450 MST. Being arranged.

National Aniline and Chemical Co. - New York City - Food Dyes

5/15/39 - rubber film stands up satisfactorily whereas "Cellophane" cracks resulting in sifting of dyes.

7/14/39 - same as above.

Confections, Inc. - Chicago

7/5/39 - tested and found Goodyear film the best on basis of protection, visibility and attractiveness.

8/29/39 - Customer advised by agent that the use of "Cellophane" would save them money. Tests with "Cellophane" showed good protection, on candy coated pop-corn, over several weeks' period.

Royal Nut & Candy Co. - New York City

7/24/39 - arranging test of "Q" films versus rubber.

10/2/39 - second set of samples received and placed under test in S.S.S. laboratory.

M5256

A. F. WENDLER
continued

Tag-T-Nut Co. - Baltimore

4/3/39 - running tests with Goodyear film.

4/27/39 - on checking tests, customer stated there were still some machine adjustments necessary, but felt they could be ironed out.

5/16/39 - rubber film gave better protection to salted nuts where "Cellophane" has been unsatisfactory, during summer months. Expect to overcome machine difficulties and will use "Cellophane". ?

6/8/39 - machine problems not yet solved.

Jersey Cereal Co. - Chicago

2/23/39 - received samples of Goodyear film and feel it will be the answer to their breakage problems.

5/11/39 - plan to test Goodyear because of following faults with "Cellophane".

1. Adhesive problem and poor seal on bags causing breakage.
2. Expansion of cereal puffs with shrinkage of "Cellophane" resulted in breakage.

Schultz Food Products - Oakland, Calif.

4/4/39 - making bags of Goodyear film for popped corn because of claim of air-tightness.

4/20/39 - bags made and gave no trouble with odor on cereals or popcorn. Will not use rubber film because of cost.

Plough, Inc. - Memphis

4/13/39 - use of rubber experimental only on export shipments. Cannot use it on automatic machines, price is high and tests have not shown measurably increased protection.

7/17/39 - unable to produce a satisfactory package on machine with rubber film - (cough drops).

M5256

A. F. WENDLER
concluded

In addition to the above, there have been many single calls on customers who are using rubber film, are considering using it or have discontinued its use.

The reasons for these are given in the following tabulations together with the number of times each reason has been reported.

Rubber Film Being Used or Considered

More Protective	16
More Durability	9
Shrinkage and Deformation	3
Greater Elasticity	3

Rubber Film Discontinued

Odor	7
Machine Operation	4
Poor Seal (Critical Temp.)	3
Poor Appearance	2
Cigar Wrap - could not open	2
Yellow cast on bed sheets	1
Molding - Prunes & Apricots	1
Brittle	1

HDH:W

M5256

Defendant's Exhibit No. 327

CC: O. F. BENZ

R 1204

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE

"CELLOPHANE" DIVISION

November 20, 1939

Wax Paper
Glassine
Parchment
Bx Board

TO: L. B. STEELE

FROM: C. F. BROWN

As prices of wax, glassine and chipboard have been going up and "Cellophane" down it is important that we obtain as quickly as possible an up to the minute picture on a square inch basis. (1)

It would be well to get, if possible, a history of price increases of the competitive materials this year which can be contrasted with our price reduction - then translate competitive prices to a square inch basis.

Naturally, this is going to be a little difficult from the standpoint of selecting the proper types of glassine, wax and board, owing to the fact that there is such a wide range. On the other hand, it should be possible to find out what are the three types of wax, two types of glassine, three weights of board, or whatever, most generally used in the baking industry and also in the candy industry.

After we collect this information we should be able to translate it into comparative costs on a 16 ounce loaf of bread, a two ounce candy bar, etc.

Please collect this information as quickly as possible.

CFB K

P.S. An interesting comment was made in connection with Peter Paul - by printing "Cellophane" themselves they save money over buying printed glassine from a converter.

P.P.S. Another slant to bear in mind in working this up is the Drug industry in the use of cartons for bottle goods.

(1) Loaf Bread
(2)

M5257

NOTED
DEC 6 1939
L. B. STEELE

"Cellophane" is a trade mark and should be spelled with a capital "C"

Defendant's Exhibit No. 328

cc: Nelson Allen
H. I. Woodward
W. G. Hunter - File

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

CELLOPHANE DIVISION

Wilmington, Delaware.
December 13, 1944.

TO: ~~W. J. Harte~~

FROM: C. L. Blair

SUBJECT: COMPETITIVE SAMPLES
Ref: Letter C. L. Blair to W. J. Harte 10/24/44

A review of competitive samples received in the recent past was given in the reference letter, together with the suggestions that:

1. One man in the direct sales group be assigned to obtain three samples per year of Sylvania's 300 PMS film; one man to secure a like number of samples of Sylvania's 300 PMCg; and one for Sylvania's 300 PMCSX.

2. The balance of the direct sales group to look for other Sylvania films and not to submit samples of the three types above mentioned.

It is desired to proceed with the above suggestions, but we should like to supplement the reference letter to increase the scope of the competitive sample field.

For immediate procurement, can you arrange to get us one roll, 18" wide, of a convenient outside diameter of the following:

1. Both 30 and 35-pound (before waxing) waxed paper bread wrapper.
2. 20, 25 and 30-pound Riegelite lacquered glassine.
3. Betner double and triple laminated glassine.

It is our plan not only to run the usual analyses on these competitive materials, but also to include them along with various types of Cellophane in product tests which are run. In this way, we can accumulate a file of information on the comparative behavior of competitive wraps in actual product tests.

In addition to the above items, all sales representatives should be asked to watch for unusual types of competitive viscose sheeting, any new films either as such or in laminations, coated papers, etc., particularly those materials appearing on the market as competitive to Cellophane. It is always preferable to secure a roll rather than small sheets.

Whenever possible, it would be appreciated if the salesmen could report data on the cost of the films they submit.

M5261

NOTED
DEC 15 1944
W. J. HARTE

Defendant's Exhibit No. 329

D.C. No. 4323.
Civil Action 1216

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
EMPIRE STATE BUILDING
NEW YORK, N. Y.

CELLOPHANE DIVISION

February 24, 1945.

TO: W. J. HARTE
WILMINGTON

FROM: R. J. CROWLEY

Subject: COMPETITIVE SAMPLES

Reference: Your Letter December 15, 1944.
Our Letter December 18, 1944.

We are forwarding to the attention of W. G. Hunter one full roll of 18" 26-lb. glassine.recently received.

Additional rolls of various types of wrapping materials are expected, but the supply condition being what it is, we see no immediate prospects of quick action from the source who is attempting to collect the material we promised you.

NOTED
FEB 3, 1945
W. J. HARTE (238-D)

Defendant's Exhibit No. 336

GOVT EXHIBIT NO. 1367
Civil Action 1216

August 14, 1945

(CONFIDENTIAL)

TO: M. C. POLLOCK
I. S. GARDINER
R. M. MAC DONALD, NEW YORK
A. E. HOFFMAN

FROM: L. B. STEELE

COMPETITIVE INFORMATION

In your contacts please be alert for any significant data regarding competitive activity or plans. This includes not only competitive viscose film but also acetate, rubber films, other new transparent films in addition to foil, coated moistureproof paper, etc.

Information regarding experimental trials, new adoptions, performance in use, sales strategy, advertising or promotion material, prices, present or forecasted volume - all these are of value.

I hope our Advertising and Promotion group can be the means of securing some very helpful data in the above directions. Send any reports to the writer promptly upon receipt of information.

LBS:JL

Defendant's Exhibit No. 331

January 6, 1946

MR. P.H. GABRIEL, SPRUANCE
DR. G.M. KARNS
MR. J.F. MC CUNE
MR. A.F. WENDLER

ECONOMIC TRENDS AFFECTING INDUSTRIES USING CELLOPHANE

FILE COPY

We quote as follows from Mr. Steele's report for December, the third for the year 1946, on the above subject -

"PACKAGING MATERIALS

Cellulose Acetate Film

Celanese Corporation is stated to be trebling its production through plants at Newark and Belvidere, New Jersey. Public opinion indicates that this is needed by the produce field and is considered 'superior' to viscose film for this purpose since it allows vegetables to 'breathe'."

We are inclined to believe that the Celanese Corporation are on the right track; at least some of our findings indicate quite conclusively that cellulose acetate film has very attractive possibilities in the fresh produce field.

A. KUBSMAN
ASS'T. DIVISION MANAGER

AK:G

M 319

Defendant's Exhibit No. 332

CC: L. B. STEELE
H. P. SETTER

March 13th, 1947.

TO: T. L. HINES

FROM: C. F. BROWN

PRESENT ANNUAL PRODUCTION OF WRAPPING PAPER
(From the Department of Commerce, Bureau of the Census)

1945

Waxing Paper (18 pounds and up)	436,854,000	pounds
Glassine	169,058,000	pounds
Greaseproof	45,896,000	pounds
Vegetable Parchment	64,984,000	pounds
Waxing Tissue	100,388,000	pounds
Wrapping Tissue	74,432,000	pounds
Fruit & Vegetable Wrapping Tissue	68,568,000	pounds
Total	960,180,000	pounds
Cellophane (du Pont plus Sylvania)	140,000,000	pounds
Acetate (25% for wrapping purposes)	2,000,000	pounds
Pliofilm	2,400,000	pounds
Total	144,400,000	pounds
OVER-ALL TOTAL	1,104,580,000	pounds

FILE COPY

Standard Oil Co. (N.J.) states in June 1946 issue of "The Lamp":

"189,000,000 pounds of paraffin used annually to coat waxed paper, the annual volume of which is 752,000,000 pounds. Of this, 675,000,000 pounds is consumed by food industries - 440,000,000 pounds in baking industry alone."

M5212

CFB:CP

Defendant's Exhibit No. 333

GENERAL BULLETIN

NO. 48

August 18, 1947

INCREASES IN PRICES OF PACKAGING MATERIALS

For your information, below is a comparison of pre-war and present prices of principal materials used in the packaging industry.

	PRE-WAR	PRESENT	PER CENT INCREASE
Bleached Sulfite for Waxing	$ 6.00* cwt.	$11.15 cwt.	86.0
Waxed Paper Bread Wrappers 37# Printed - 3 Colors	12.33** "	17.50 "	41.8
Bleached Glassine - Weight 25 lbs. and Up	11.00* "	15.75 "	43.2
Glassine Candy Bar Wraps Printed - 3 Colors	36.50** "	44.00 "	20.6
Boxboard .CPO and Heavier	70.00* ton	110.00 ton	57.1
Aluminum Foil .00035"	0.48* lb.	0.53 lb.	10.4
Pliofilm - Normal 120 Gauge	0.72* "	0.88 "	22.2
Pliofilm - Plasticized 120 Gauge	0.77* "	0.93 "	20.8

M 610

* 1939 Prices
** 1941 Prices

W. J. Harte, Manager,
DIRECT SALES.

tg

E. I. DU PONT DE NEMOURS & COMPANY (INC.) CELLOPHANE DIVISION

Defendant's Exhibit No. 331

Wilmington, Delaware,
July 8th, 1949.

MR. A. KUNSMAN

PRICES OF PACKAGING MATERIALS

You will recall that you requested us to obtain prices of competitive packaging materials for R. L. Richards, showing the comparison between pre-war and present prices. This information has been obtained through our converters, the only source of information on this type of material.

FILE COPY

	Pre-War	June 1949	% Incr.
Bleached Sulphite (For Waxing)	$ 6.00 Cwt.	$12.00 Cwt.	100
Wax Paper Bread Wraps (37-Lb. Printed 3 Colors)	12.33 Cwt.	20.00 Cwt.	62.2
Bleached Glassine (25-Lb.)	11.00 Cwt.	17.75 Cwt.	61.3
Glassine Candy Bar Wraps (Printed 3 Colors)	36.50 Cwt.	42.00 Cwt.	15.0
Boxboard (.020 Up)	70.00 Ton	90.00 Ton	28.5
300 MST-51 Cellophane	.41 Lb.	.48 Lb.	17.0

We plan to provide for a permanent set-up so that this information can be collected each six months. As it is at the present time, considerable delay results due to the contacts necessary to obtain the information after it is requested.

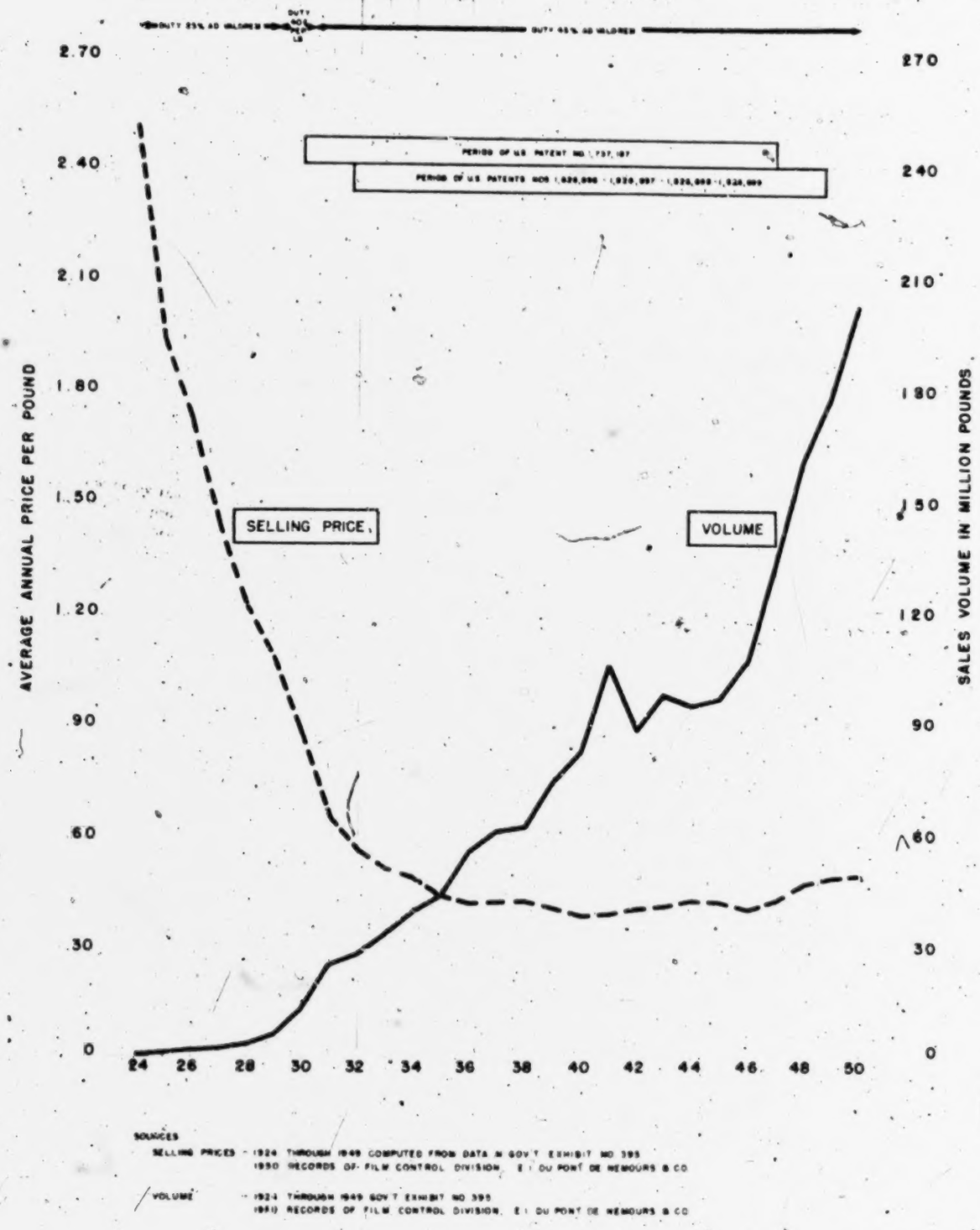
C. A. HALEY,
MANAGER, PLANNING SECTION.

CAH:CP

M 5264

Defendant's Exhibit No. 335

DEVELOPMENT OF DU PONT CELLOPHANE RELATED TO TARIFF & BASIC MOISTUREPROOF CELLOPHANE PATENTS



SOURCES

SELLING PRICES - 1924 THROUGH 1949 COMPUTED FROM DATA IN GOV'T EXHIBIT NO 395
1950 RECORDS OF FILM CONTROL DIVISION, E I DU PONT DE NEMOURS & CO

VOLUME - 1924 THROUGH 1949 GOV'T EXHIBIT NO 395
1950 RECORDS OF FILM CONTROL DIVISION, E I DU PONT DE NEMOURS & CO

Defendant's Exhibit No. 336

DU PONT CELLOPHANE

AVERAGE ANNUAL SELLING PRICES
(Dollars Per Pound)

1924	2.508
1925	1.927
1926	1.713
1927	1.431
1928	1.211
1929	1.066
1930	.863
1931	.643
1932	.556
1933	.504
1934	.481
1935	.431
1936	.413
1937	.415
1938	.416
1939	.398
1940	.380
1941	.382
1942	.396
1943	.404
1944	.419
1945	.416
1946	.401
1947	.419
1948	.460
1949	.483
1950	.490

Source: 1924 through 1949 computed from data in Gov't. Exhibit No. 395
1950 - Records of Film Control Division, E. I. du Pont de Nemours & Co.

Defendant's Exhibit No. 337

MEMORANDUM OF SOME REMARKS MADE AT MEETING
OF BOARD OF DIRECTORS, DU PONT CELLOPHANE COMPANY, INC.,
THURSDAY, DEC. 11, 1924.

L. A. YERKES:

Situation for November very bad. Sales were by far the worst for any month for a long while - 31,000 lbs. against October sales of 65,000 lbs. Only thing we can say about it is that for the moment everybody has Cellophane and are not buying. The candy trade of course has finished buying for awhile - Christmas stuff put up and on the market. Dealers all have stocks on hand.

Outside sales are increasing gradually. Just at the moment the bakery business looks pretty good, - may develop into a fairly large field. California business pretty good.

We are working actively on the millinery business. Think it is going to amount to something. Have had a little difficulty in giving them satisfaction because they have always bought 600 stuff from France. We had difficulty in matching it. Although it is labeled 600 it is actually 750. We will have to supply them 750 and this we can do.

The packing machine isn't finished yet. One machine ought to be ready in a couple of weeks.

Costs very high. Something like $1.80 last month, but were running plant at very reduced capacity. Running one machine 24 hours at slow speed. Stocks have gone up. Hoped to get stocks down by first of January to somewhere around 75,000 lbs. but it is going to be nearer 110,000 to 115,000 lbs.

I am in favor of lowering the price. I think we are taking a chance on whether we are going to increase volume sufficient to make up the difference, but my feeling is that a substantial reduction in price should be made. Think it will undoubtedly increase sales and widen distribution. Inclined to think it will increase distribution in candy trade. The Whitman Company is now putting up about 40% of their packages in cellophane. I really do believe that a reduction of say 25% would widen distribution and increase sales to present customers. Our price I think is too high based purely on manufacturing cost, and too high in comparison with other wrapping papers on the market, and while we cannot approach the price of the glassine or other oil papers, if we make a substantial reduction we will in some cases get somewhere near them. Our price is substantially higher than the French price, and there is a certain amount drifting in all the time. Can buy over there and get it in here at somewhere around 74¢ after paying the duty. Our average price is about 10¢. We cannot base reduction in price on anything except judgment; - cannot show anything in black and white as to what would happen. I do know the resistance we have is entirely one of price. In three-fourths of that the difference is so great that we will probably never overcome it.

Al 773

ALBERT BLUM:

Spoke of case of Whitman and asked:- Why doesn't our sales force bring us a concrete proposition on lowering price to Whitman? Man we have in New York is a big enough man to get close enough to Whitman and find out on what basis 90% of their output would be put up in Cellophane. I don't think at this time it would be good policy to lower our prices generally.

F. W. PICKARD:

That has been my attitude. I believe in time we must reduce. I think when lowering prices comes it will probably take the form of maintaining present price or very close to that on small lots - discounts rather than lowering all prices.

W.C.SPRUANCE:

I think there is another phase to it so far as immediate conditions are concerned. Gross sales - around 2.40 per pound. Take 1/4 of that, or .60. 59¢ is average profit per pound to date. If we don't get an increased quantity we are just on the black and red line. I think you must come down in time.

LA.YERKES:

Why put it off if you have to come down in time? What we want do develop is at what price we can sell maximum output.

W.C.SPRUANCE:

It is not clear in my mind whether a 25% reduction is enough, but that is about as far as you can go.

L.A.YERKES:

We can make cellophane at $1.00 per pound if we get sufficient business.

ALBERT BLUM:

I think we have got to have two distinct prices - on for very large users and another for the smaller users. Agree with Mr. Yerkes we will have to lower prices and does seem wro not to reduce at once, but think we should find out for ou sur if it is only a question of price. Am not sure that it is.

F.W.PICKARD:

I am quite sure if you reduced price 40% to Whitman he would not increase use to 90%.

M 773

Defendant's Exhibit No. 338

EXHIBIT # 6

DU PONT CELLOPHANE COMPANY, INC.

GENERAL SALES OFFICE
40 WEST 40TH STREET
NEW YORK, N. Y.

February 2, 1925

Gentlemen:

A new Cellophane price list, effective February 2nd, 1925, showing substantial reductions and favorable quantity discounts, is enclosed.

The Plant built at Buffalo, N. Y. for the manufacture of Cellophane commenced operation in May, 1924, and has been in continuous operation for the past eight months. This production experience, added to the constantly increasing volume of business, has enabled us to establish new manufacturing costs, which we are pleased to pass along to you.

These reductions mean a great deal on all packages, but are particularly vital to those products where the operating margin was not quite enough to allow the Super-wrap. You now can use Cellophane or increase your use, and we ask you to consider seriously, the following possibilities:-

To wrap the package or product which has not been wrapped in Cellophane.

To develop a new package which with the new price can be wrapped in Cellophane.

Read over the enclosed booklet - you will find it informative and interesting - then send us a sample of the package or product you feel should be wrapped in Cellophane and we will be glad to suggest a practical and economical method.

Yours very truly,

DU PONT CELLOPHANE COMPANY

M774

PLANT AND EXECUTIVE OFFICES
BUFFALO, N. Y.

Address All Communications to the Company, Not to Individuals

Defendant's Exhibit No. 389

5058

Buffalo, N. Y.
April 23, 1926.

TO : BOARD OF DIRECTORS
DU PONT CELLOPHANE COMPANY, INC.

FROM : L. A. YERKES
PRESIDENT

We are submitting herewith a report by Mr. Benz, Sales Manager, giving a general review of the Cellophane situation divided in accordance with our sales to the trade by definite classifications:

CANDY

"The use of Cellophane continues satisfactory in this industry.

"The use of Cellophane for small bar candies has increased and we are continuing our work in this direction.

"Some of the larger operators have started to wrap a cheaper grade of boxed candy which has not heretofore been wrapped.

"This industry is well posted on the advantages of Cellophane and each price reduction we make opens up new opportunities in wrapping lower priced goods and small units.

BAKERS

"Our best development work has been done in the baking industry. There are a substantial number of bakers using Cellophane to wrap cookies, doughnuts, cake and as a window for a pie box.

"There seems to be no large cookie bakers who are not now using Cellophane and we feel responsible for many of the present cookie bakers being in business, as it was not a standard line with them when they were first approached.

"The largest chain grocery company (A&P) have started to use Cellophane to wrap a half dozen doughnuts for one of their large Eastern divisions, (approx. 1000 stores). They are so successful, we expect to sell other divisions on the same proposition.

M834

BAKERS (Continued)

"The largest pie bakers of the country have just started using a pie box with a Cellophane window. This has great merchandising possibilities but due to the shrinkage of Cellophane, we have had difficulty in getting box makers to work on it and to quote a reasonable price.

"Due to the lack of waterproofness, Cellophane has had a setback in the cake industry, although with certain type of cakes it is working sufficiently well to warrant continuing, but not in large volume, due to the necessity of restricting the territory to which it can be shipped.

"Little or no progress has been made with the so-called cracker baker, such as the National Biscuit Company and Loose Wiles, due also to the lack of moisture-proofness of Cellophane. They will not commit themselves as to what they would do if we could furnish a water-proof Cellophane, but there is no question we could get them started.

"The only difficulty we have had in the development of the cookie baking industry has been the lack of strength of No. 300 Cellophane during the cold weather. Practically all of the larger users had trouble and some are now using No. 450 and will probably continue until the late Spring or early Summer. The baking industry is still one of our best fields and we are continuing to work closely to it.

MEAT PACKING

"Our progress in this industry has been to get several of the larger packers and a number of the smaller ones to wrap units of 1/2 lb. and 1 lb. bacon, 1 lb. pork sausage, 1 lb. frankfurters and specially cured hams.

"Concerns such as Swift & Company and Armour and Company, while they are making tests from time to time, will not commit themselves as to the future of Cellophane in their organizations.

M-834

"The big obstacle in selling these concerns is the price of Cellophane. They have such a staple line with all sorts of small competition that they have to watch the price of the article for the consumer very closely.

"They continue to give us encouragement, however, and as before stated are using Cellophane here and there in a small way, both as a trial, to care for a demand we have created, and to meet the competition of smaller packers now using Cellophane.

"The lower price of corn may ease the price of stir bacon, which will help us, provided there is not produced too large a percentage of fatty bacon.

34.

"Our work in the industry has developed the fact that visibility is not always desireable in packaged meats.

DRIED FRUITS

"This industry used a substantial quantity of Cellophane in wrapping the standard block of figs and as a facing sheet on fancy packages of dried fruits. The largest concerns were substantial users.

"A new use, which has some promise of volume, is a 2 lb. block of prunes in a direct wrap of Cellophane.

"The indications are that we will do a greatly increased business on the Coast this year on these items and as there are further price reductions, we will make inroads on the volume business of cheap blocks of figs now wrapped in glassine paper.

"Our sales to the dried fruit industry are not restricted to the Coast. We are selling to several Eastern concerns who import dates in bulk and re-pack in Cellophane in 10¢, 15¢ and larger units.

P 3

M834

DRUGS

"A number of attractive new wraps of Cellophane are now on the market, although this industry has not produced the new business that we anticipated.

"The transparency of Cellophane allows it to be used on standard remedies sold by advertising and counter display, except where an extremely low price, or a long established package works against it. A large bulk of the preparations of the leading drug houses are sold for professional use only and the cost of Cellophane makes it practically prohibitive there.

"Our continued work by advertising and solicitation is gradually breaking down the resistance of the innumerable smaller firms with one or two products on which Cellophane can be used.

PERFUMES

"Insofar as we can find out, all of the new additions to the perfumery field are using Cellophane, but unfortunately this does not mean a large volume of business, as this industry is still dominated by the imported perfumes.

"Classed with perfumes, insofar as our work is concerned, are face, bath and talcum powders and here we have made an important step forward.

"Several of the better high grade cosmetic concerns are using Cellophane as box wraps and quite recently the Colgate Company placed three Cellophane wrapped powder boxes on the market.

"The United Drug Company have just released a very attractive new line of perfumes and powders all wrapped in Cellophane. These are naturally distributed through the Liggett and Rexall stores.

"Another National advertiser, the Kolynos Co., has just released a new line of perfumes, soap and powder wrapped in linen embossed Cellophane.

-4-

M834

"Bath salts, while they are not doing as well as when they first started, due to the lack of water-proofness of Cellophane, represent a nice volume of business. Several attractive Bath Salt novelty wraps are being marketed successfully.

"SOAP

"Concerns such as Marshall Field Company, Kolynos and Eavenson are now using Cellophane on new items of soap and in increasing quantities, although at present the use is restricted to the higher priced fancy soaps, having a limited sale.

"It has not yet been possible to displace with Cellophane the wrappers at present in use on the popular and large selling soaps.

"Our work continues, as in the past, to recommend new sizes, colors and shapes to parallel the present wrap.

"POWDER PUFF ENVELOPES

"Our business has increased very satisfactorily in this industry and we feel safe in saying that all the large manufacturers of powder puffs are using Cellophane envelopes and a large percentage of the powder puffs marketed separately are in Cellophane envelopes.

"The increased use of these envelopes has brought us an increased number of complaints of breakage, but we feel this is a temporary condition which will be overcome as the fabricator improves in the handling of Cellophane.

"Lack of service on envelopes in the past has restricted our activity in selling them, but with the addition of a stock at the plant we will start a campaign to sell other industries.

"TEXTILES

"During the year we have had a very satisfactory increase in business for wrapping bias tape, lingerie ribbons, bead strings and other

M834

narrow fabrics, and we have made some progress in packaging embroideries, linens, tea sets, handkerchiefs, etc., and as a window on a box containing embroidered articles.

"Very little has been accomplished in wrapping lingerie, hosiery and yard goods due to keen competition and established trade customs.

"Our experience with the narrow fabric manufacturers has proved that the textile world is in need of, and waiting for better merchandising and we will continue to work for representation in these fields.

TOBACCO

"During the holidays we were successful in getting several gift boxes of cigars and nationally distributed cigarettes wrapped, although generally the work we have done in this industry has brought us very little new business.

"A variety of small concerns are wrapping individual cigars and boxes of cigarettes, but tests to date show that the cigars dry rapidly in Cellophane and also impart a slight flavor which is not satisfactory.

"These tests, made by some of the larger manufacturers mean a considerable resistance in getting Cellophane used in quantities in the cigar industry. Water-proof Cellophane may help, although it must be absolutely devoid of odor.

"In the volume cigarette field, price is still the main obstacle."

11834

"This industry is slow to develop and our work would indicate several reasons: Cost of Cellophane; lack of automatic applying machinery and the shrinkage of Cellophane.

"Gelatine is largely used for windows and it has been so unsatisfactory that most box makers will not consider making more window boxes.

"Many of them are favorably impressed with the possibilities of merchandising goods in window boxes, but refuse to consider hand application. We are endeavoring to interest several machine companies to develop an automatic application.

38

"No one has as yet made a success of fabricating a complete box of Cellophane.

"Two interesting propositions in the can industry are under development,--one, a Cellophane drumhead can for a vegetable lard, taking advantage of the grease-proof qualities of Cellophane, and the other, a drumhead can for general products.

"Both are dependent on a satisfactory automatic mechanical application of Cellophane which is now under development.

MISCELLANEOUS

There are many uses for Cellophane not included in the foregoing which mean in the aggregate, a substantial volume of business. Some of these are wrapping books, rubber sponges, pen knives, tea cans, honey, gifts, novelties, etc., and also the use of Cellophane in a stock ticker projection machine, in the vulcanizing of false teeth plates and in a process of hair waving.

Our various trade journal and general advertising helps to develop leads outside the regular channels. In addition, our men make many calls on concerns in industries not considered worthy of concentrated attention.

"Two automatic wrapping machines handling Cellophane are now in operation and working satisfactorily. There is an increasing interest in this proposition and we look for a number of machines to be put into operation during the year.

65

PRICE

"This is still our main obstacle in selling Cellophane and will probably be with us always.

"Last year we consider our price reduction gave us the real opportunity with the Grennan Cake Company and this year our price reduction brought into the fold the Ward Baking Company and the A & P in a larger way than they previously planned for.

"Each reduction brings us new opportunities and customers and a more friendly attitude on the part of our present customers.

"There are one or more concerns bootlegging Cellophane from the Continent and are disturbing the market, doing a volume, as near as we can estimate, of between ten and fifteen thousand pounds per month."

M834

Defendant's Exhibit No. 340

DUPONT CELLOPHANE

DU PONT CELLOPHANE COMPANY, INC.

BRANCH SALES OFFICE:
BALFOUR BUILDING
351 CALIFORNIA STREET
SAN FRANCISCO, CAL.

GENERAL SALES OFFICE
40 WEST 40TH STREET
NEW YORK, N. Y.

BRANCH SALES OFFICE:
RAILWAY EXCHANGE BLDG.
MICHIGAN AVE. & JACKSON BLVD.
CHICAGO, ILL.

January 15, 1927

Gentlemen:

ANNOUNCING A SUBSTANTIAL REDUCTION IN THE PRICE OF ALL VARIETIES OF CELLOPHANE AS OF JANUARY 15, 1927!

43

See the enclosed price list for these reductions which will be of interest whether you are using or contemplating using Cellophane.

Based on the constantly increasing sales in 1926, we have forecasted for 1927 a still greater consumption. The anticipated increase will permit plant operating and cost economies which savings we are giving you the benefit of now.

It will be interesting for you to know that during 1926, we have not only added many new industries, but those industries in which we have long been established have given us a larger volume.

Old and new customers tell us that Cellophane has justified the present cost thru increased sales and reduction in spoilage from dust, dirt and handling.

They confirm our statement that the buying public consider a wrapping of Cellophane is the newest method of packaging goods. A greater salability of your product or package is practically assured thru the visibility and protection given it by Cellophane.

And - we are going to advertise this fact in 1927 to the general public in the Saturday Evening Post. This in addition to our regular trade journal advertising. All of which will result in more and a greater variety of articles on the market Cellophane wrapped, assuring a wider acceptance on the part of the buying public.

If you are using Cellophane now, we hope the new prices will permit a greater use -

If you are <u>not</u> using Cellophane today, we expect the new prices plus the value of Cellophane as a selling medium will hasten your decision to use it.

PLANT AND EXECUTIVE OFFICES
BUFFALO, N. Y.

Very truly yours,

DU PONT CELLOPHANE CO., INC.

Address All Communications to the Company, Not to Individuals

M1021

Defendant's Exhibit No. 341

DUPONT CELLOPHANE

Cellophane is the registered trade mark of DuPont Cellophane Company Inc.
To designate its transparent cellulose sheets and films

DU PONT CELLOPHANE COMPANY, INC.
GENERAL SALES OFFICE
40 WEST 40th STREET
NEW YORK, N. Y.

August 15, 1927

IMPORTANT ANNOUNCEMENT.

NEW LOWER PRICES ON
DU PONT CELLOPHANE
EFFECTIVE AUGUST 15TH, 1927.

In keeping with an established policy of passing on to Cellophane users any cost reductions effected by production economies, we are pleased to announce a price reduction of approximately 15%, effective August 15th, 1927 on all future orders and on orders unshipped on this date.

This marks the fourth substantial decrease in Cellophane prices made by this company since production was commenced in this country in 1924, at which time the price was 70% higher than it is today.

Each of the previous reductions has permitted an increased number of manufacturers to enjoy the benefits of using Cellophane on their products and today we see thousands of varied items wrapped in Cellophane and on display in even the smallest hamlet.

This latest price decrease makes it possible for you to give to other products in your line - staple items as well as holiday specials - the added sales advantages that Cellophane affords.

One of the chief reasons for the present reduction is the anticipated entrance of Cellophane into even larger fields than at present. Judging from advance commitments, there will be an exceptionally large demand for the new moisture-proof Cellophane, available for quantity delivery in approximately thirty days.

PLANT AND EXECUTIVE OFFICES
BUFFALO, N. Y.

Address All Communications to the Company, Not to Individuals.

M1022

In getting genuine Du Pont Cellophane; remember - in addition to the new lower prices, you will receive the following advantages,

1. An assured source of supply.
2. A uniform price policy.
3. Sheets of uniform strength and thickness.
4. Full count and uniform size sheets.
5. Instructions for economical handling.
6. Research laboratory service to solve your packaging problems.
7. An advertising campaign in trade and consumer mediums.
8. Merchandising Research Service to aid in marketing your products.

45

We suggest that you plan your requirements now so as to insure early delivery. If you desire samples for trial on any new items, these will gladly be furnished without charge.

Very truly yours,

SALES MANAGER

OFB:HG

M 1022

Defendant's Exhibit No. 352

43

DC-10

BOARD OF DIRECTORS -

December 23, 1932.

REDUCTION IN PRICE OF CELLOPHANE:

The President stated that it is intended to make another reduction in the price of Cellophane, particularly Moisture-proof, during the first quarter ~~of 1933~~, with the thought of encouraging new uses for our product and aiming for increased volume to utilize more of our existing plant capacity. While the extent of the reduction has not yet been determined, it was the unanimous feeling of the Board that the contemplated action appeared to be desirable.

Detached from Dec. 1932 Report
President to { Executive Committee / Cellophane Board } 1/23/33

PRICE REDUCTION:

It was decided to make another downward revision in prices of Cellophane, effective January 11, 1933, i.e. from 42¢ to 40¢ per pound on Regular, and from 64¢ to 58¢ per pound on Moisture-proof.

M 751

Defendant's Exhibit No. 342

New York City.
May 15th, 1928.

TO THE EXECUTIVE COMMITTEE:

Subject: MOISTUREPROOF CELLOPHANE
LIGHTER WEIGHT STOCK

As a matter of information, following your advice of action, suggesting a revision in moistureproof Cellophane that would make it possible to reduce its cost, and possibly its price to the public, and at the same time, perhaps, increase the square inch area per pound of material, a new material has been produced by the Chemical Research Division along these lines, which will show an approximate gauge of 360 against the previous gauge of 400 which we have been producing.

This material is made by coating 330 stock, having 25% glycerine with the present coating material, and when so coated, it produces a very tough and satisfactory film.

Based on the recommendations of the Chemical Research Division and our own Operating Department, we shall arrange to go into production of this material immediately and on and after May 24th, shipments of moistureproof Cellophane will be on this new basis.

The time intervening between now and that date will be required to utilize the stock of the other material in hand and in process.

Respectfully submitted,

J. E. Hall
General Manager

JEH:L

Defendant's Exhibit No.

EXTRACT FROM PRESIDENT'S REPORT TO THE BOARD OF DIRECTORS, DATED MAY 21, 1928.

****

PRICE REVISION:

Mr. J. E. Hatt, General Manager Cellophane Department recommended the following price reductions on Regular Cellophane, with which we advised him we were in agreement and had no suggestions to offer: -

MATERIAL	FROM	TO	DECREASE PER UNIT	DECREASE PER CENT
(All #300 Plain Transparent)				
1. Stock Size Sheets (per 1,000 sq.in. area)	$.0575	$.0525	$.005	8.7%
2. Cut-to-size Sheets (per 1,000 sq.in. area)	$.065	$.06	$.005	7.7%
3. Rolls (per pound)	$1.25	$1.10	$.15	12.0%

52

Owing to the manufacturing cost-situation on the Moisture-Proof Cellophane, Mr. Hatt did not recommend any reduction in the selling price of this item at this time.

M775

CO Sup 131

343342 O - 55 - vol 7 - 14

Defendant's Exhibit No. 353

DCX-10

Du Pont Cellophane Company, Incorporated

EMPIRE STATE BUILDING
THREE-FIFTY-FIFTH AVENUE
NEW YORK, N.Y.

General Sales Offices

January 11, 1933

88

Gentlemen:

15TH CELLOPHANE PRICE REDUCTION
As Of January 11, 1933

Type	Per lb. New Price	Former Price
No. 300 Moistureproof Transparent Cellophane	.58	.64
No. 300 Plain Transparent Cellophane	.40	.42
No. 450 Plain Transparent Cellophane	.45	.47

For complete new prices - see Price List enclosed.

This is the 15th Cellophane price reduction since manufacture was started in this country in 1924. It is a continuation of the established policy of the Du Pont Cellophane Company to furnish its products to American industry at the lowest possible prices commensurate with manufacturing costs.

1933 will require greater effort to create new business and retain present business. Protection of quality and presentation of merchandise in its most attractive form are important factors in winning a larger share of the consumer's dollar.

This price reduction is made to enable industry to more fully capitalize on these advantages of Cellophane through its broader use on their products.

In the development of sales-stimulating packages, we offer without obligation the services of our organization - our field representatives and our Package Development Department.

Very truly yours,

O. F. Bens,
DIRECTOR OF SALES

C

17-238

Cellophane is the registered trade-mark of Du Pont Cellophane Company, Inc., to designate its transparent cellulose sheets and films

Defendant's Exhibit No. 314

DU PONT CELLOPHANE

Cellophane is the registered trade mark of DuPont Cellophane Company Inc.
To denote our transparent cellulose sheets and films

PLANT
BUFFALO, N.Y.

DU PONT CELLOPHANE COMPANY, INC.

GENERAL SALES OFFICE
2 PARK AVENUE
NEW YORK CITY

BRANCH
SALES OFFICES
CHICAGO
SAN FRANCISCO, CAL.

May 29, 1928

IMPORTANT ANNOUNCEMENT
NEW CELLOPHANE PRICES

Effective June 1, 1928 a substantial reduction is announced in the price of Regular Cellophane. A copy of the new price list is enclosed.

Every indication points to the adoption of Cellophane in the near future in certain new fields. This fact, plus the continued increased use in present industries will bring our production volume to a figure which assures numerous manufacturing economies. These we are in turn glad to pass on to present Cellophane users.

You will be interested to know that this is the fifth voluntary reduction in the price of Cellophane since the du Pont organization started its manufacture in 1924. The cost of Cellophane then was 127% higher than it is today. All reductions have been based on forecasts of future possibilities which have since materialized.

From its original use in the United States as a wrap for candy boxes, it has spread rapidly into over thirty different industries. As a consequence there is hardly a store of any size that does not sell some merchandise wrapped in Cellophane.

You can now give it consideration for new products, new holiday specials, or on present items which need the added sales advantages that Cellophane offers.

Our services are at your command in aiding in the development of satisfactory and economical Cellophane wraps for your packages. We will gladly furnish samples without charge for your experiments.

DU PONT CELLOPHANE COMPANY, INC.

P. S. There is no change in the price of Moisture Proof Cellophane.

XP-120

"SELL IT THROUGH CELLOPHANE"

M 1084

Defendant's Exhibit No.

DU PONT CELLOPHANE

PLANT
BUFFALO, N. Y.

DU PONT CELLOPHANE COMPANY, INC.

GENERAL SALES OFFICE
2 PARK AVENUE
NEW YORK CITY

November 26, 1928

IMPORTANT PRICE REDUCTION

58

DU PONT CELLOPHANE

Effective November 30, 1928, another substantial reduction is announced in the price of Regular Cellophane, and also in Moistureproof Cellophane. A copy of the new Price List is enclosed.

You will be interested in this announcement which represents the sixth price reduction on Regular Cellophane made by Du Pont Cellophane Company during the past four years. The price at that time was 162% higher than it is today.

As with former reductions, it is based on our present volume plus a forecast of what is possible with both Regular and Moistureproof Cellophane available at a lower price.

The anticipated economies of production are being passed along now.

You have, undoubtedly, noticed the tremendous spread in the distribution of Cellophane-wrapped goods. From the original use of Cellophane as a candy box wrap, it is now widely used in many different industries. Then, too, the marked success of Moistureproof Cellophane in the present, and the possibilities in new fields where its advantages make it desirable, has made us optimistic of the future.

All in all, we believe this reduction comes at a most opportune time. As you make your plans for the New Year, you will now be able to give Cellophane consideration on both new products and the present items that need the sales advantages Cellophane affords, and where it has not been considered previously due to the higher price.

Our Package Development Service will give you the fullest cooperation. If you send in your packages, suggested wraps will be submitted to you - or, if you prefer, we will gladly send sample sheets for your experiments.

Very truly yours,
DU PONT CELLOPHANE COMPANY, INC.

L.C

Director of Sales

SELL IT THROUGH CELLOPHANE

Defendant's Exhibit No. 346

DU PONT CELLOPHANE

DU PONT CELLOPHANE COMPANY, INC.

GENERAL SALES OFFICE
2 PARK AVENUE
NEW YORK CITY

BRANCH SALES OFFICES
BOSTON, MASS
CHICAGO, ILL.
SAN FRANCISCO, CAL.

IMPORTANT PRICE REDUCTION

DU PONT CELLOPHANE

Effective August 1, 1929, we announce another substantial reduction in the price of both Cellophane and Moisture-Proof Cellophane. A copy of the new price list is enclosed.

This is the seventh reduction in price since the domestic manufacture of Cellophane was started by the Du Pont Cellophane Company in 1924. The present price is less than 40% of the price of that time.

The outstanding development in this period has been the introduction and perfection of Moisture-Proof Cellophane, which in moisture-proof qualities excels any other transparent wrap known. Its exceptional advantages have won for it an important place in the candy, baking, meat, fish, cigar, and other industries.

This reduction comes at an opportune time to permit users of Cellophane to benefit not only on present products that need the added sales appeal that Cellophane offers, but also on new items that will be marketed for the coming fall and holiday season, as well as for 1930.

The services of our Package Development Department are at your disposal in developing new package suggestions. Send in your products and suggested wraps will be submitted to you. Or if you prefer, we will send you samples of Cellophane for your own experiments.

Expressing our appreciation for your past business, we are

Very truly yours,

DIRECTOR OF SALES

"SELL IT THROUGH CELLOPHANE"

M1026

Defendant's Exhibit No. 347

SALES DATA ON PRICE DECLINE

The chart shows that the volume of sales in the early months of 1927 were not materially greater than in the same period, 1926, and accordingly, the price was reduced in August of 1927, with the result that the volume in that Fall reached a new peak.

During the early months of 1928, the volume held very close to the peak level of the previous Fall months, with the result that the first five months of 1928 showed a satisfactory increase over the same five months of a year previous.

On June 1st., 1928, the price was reduced, and during the last seven months of 1928, sales showed an increase from 1,374,700 pounds in 1927 to 2,024,600 pounds in 1928, or 47.2%. It will be noted that a price decline in August of 1927 is included in the period compared.

66

Later in 1928, at the end of November, we again reduced the price with an idea of influencing the volume in the early months of 1929, and this resulted in a volume in the first seven months of 1929 of 2,676,300 pounds as against 1,565,900 pounds for the year before, or an increase of 70.9% for the period. Likewise, it will be noted that the seven-months' period of 1928 included a price decline, also.

On August 1st., 1929, we again reduced the price, with the result that in the last five months of 1929 we produced a volume of 3,174,000 pounds as opposed to 1,516,900 pounds in the same five-months' period of 1928 - or a gain of 109.2%.

It would seem that this increased percentage of growth in the latter five months of this year, over the corresponding months of a year ago, which Fall months are the natural and logical peak of each year, should, in a very considerable measure, be attributed to the revised level of prices, and may indicate the desirability of reaching for still lower levels in Cellophane prices in order to open up markets on units of lower-priced commodities.

The following list summarizes the figures shown in the above:

Last 7 Mos. 1927	vs.	Last 7 Mos. 1928	
1,374,733 lbs.	vs.	2,024,660 lbs	+ 47.2%
First 7 Mos. 1928	vs.	First 7 Mos. 1929	
1,565,946 lbs.	vs.	2,676,323 lbs.	+ 70.9%
Last 5 Mos. 1928	vs.	Last 5 Mos. 1929	
1,516,914 lbs.	vs.	3,174,000 lbs.	+ 109.2%

11046
Chart C

Defendant's Exhibit No. 348

FORM 30246-L

DU PONT CELLOPHANE

Cellophane is the registered trade mark of the Du Pont Cellophane Company, Inc., to designate its transparent cellulose sheets and films.

PLANT
BUFFALO, N.Y.

DU PONT CELLOPHANE COMPANY, INC.

GENERAL SALES OFFICE
2 PARK AVENUE
NEW YORK CITY

BRANCH
SALES OFFICES
BOSTON, MASS.
CHICAGO, ILL.
SAN FRANCISCO, CAL.

February 1, 1930

THE EIGHTH PRICE REDUCTION

IN DU PONT CELLOPHANE

68

Here is welcome news - the announcement of another substantial reduction in the price of both Regular and Moistureproof Cellophane, effective February 1, 1930. Full details are given in the attached price list.

In the past five years, each of the seven previous price reductions on Cellophane have opened up wider possibilities for its use. During the past year alone, Moistureproof Cellophane has been adopted as a wrap for cigars by a large percentage of progressive cigar manufacturers and present indications point to its use on a substantial proportion of the 1930 output of cigars.

As a result of this rapid expansion in the use of Cellophane, today you can hardly find a store, large or small, in which there are not some Cellophane wrapped items on display. The public is showing a growing preference for merchandise packaged in this manner.

To those now using Cellophane, the new prices will make its use more profitable than ever and permit its adoption on additional items. Since it is evident that in 1930 products will need more than ever the extra sales appeal that Cellophane gives, this reduction comes at a most opportune time.

At your service is our Package Development Department which during the past year has aided hundreds of firms in developing attractive and economical Cellophane units.

If you will send samples, suggested Cellophane wraps will gladly be submitted for your approval. This service is free and without obligation. We hope you will use it.

Very truly yours,

O. Benz

Director of Sales

OFB:HC
C

"SELL IT THROUGH CELLOPHANE"

M 1027

Defendant's Exhibit No. 349

DU PONT CELLOPHANE COMPANY, INC.

GENERAL SALES OFFICES
3 PARK AVENUE
NEW YORK CITY

Important
Announcement

March 2, 1931

80

CELLOPHANE PRICE REDUCTION

Continuing our policy of lowering the price of Cellophane whenever possible, we announce the following substantial reductions, effective March 2, 1931:

Fifteen cents a pound, or 3/4 cents per thousand square inches, on Moistureproof Cellophane.

Ten cents a pound, or approximately 3/8 cents per thousand square inches, on Nos. 300, 450 and 600 Regular Cellophane.

This new reduction - the twelfth since domestic manufacture was started - is made possible by the recent greatly increased usage of Cellophane on a new and wider variety of products. Moistureproof Cellophane, an exclusive patented product, has been so well received by users that it is possible to reduce it even more than Regular Cellophane.

More and more manufacturers are finding the two great trends in consumer buying habits - "to see what they buy", and the desire for clean, sanitary protective packaging - can be answered by sealing in transparent Cellophane. In this present period, when merchandise needs every bit of sales appeal possible on the dealer's counter, the results of packaging in Cellophane have been most pronounced.

This latest reduction comes at a very opportune time to permit you to give it consideration for the coming year, not only on new products you may be planning but also on present units that need new sales stimulus.

Very truly yours,

OTB/SS

Director of Sales

P.S. Tell us on the attached card if you will send us samples so our Package Development Department may submit packaging suggestions for your consideration.

"SELL IT FASTER THRU CELLOPHANE"

M. 241

Defendant's Exhibit No. 350

DU PONT CELLOPHANE

Cellophane is the registered trade mark of Du Pont Cellophane Company, Inc. to designate its transparent cellulose sheets and films.

DU PONT CELLOPHANE COMPANY, INC.
EMPIRE STATE BUILDING
350 FIFTH AVENUE
NEW YORK, N.Y.

August 1, 1931

GENERAL SALES OFFICES

THE 13TH CELLOPHANE PRICE REDUCTION

85

In line with our policy to lower the price of Cellophane whenever increased volume of production makes this possible, we announce the following reductions, effective August 1, 1931:

Five cents a pound, or two-tenths a cent per thousand square inches, on No. 300 and 450 Plain and Moisture-Proof Cellophane.

Complete new price list is enclosed.

This is the THIRTEENTH REDUCTION since the Du Pont Cellophane Company started manufacture in 1924. Then referred to as a "wrap on candy boxes", the use of Cellophane has spread so rapidly that now it is seen on "almost everything".

In the past few months Cellophane has stepped more than ever into the limelight and become a subject of wide-spread public discussion, resulting in a consumer appreciation of the advantages of Cellophane that is bound to benefit every product on which it is used.

Today more and more manufacturers recognize the value of visible merchandising in increasing sales. To give their product maximum sales appeal, and at the same time, a protection that assures the customer receiving "factory-fresh" merchandise - they turn to Cellophane.

This latest price reduction is timely in that it will permit the use of Cellophane at lower cost on the new items planned for Fall, the Holiday Season, or for 1932.

Our Package Development Department will, without obligation, gladly suggest the most practical and economical Cellophane package to meet your particular needs. Let me know personally, on the attached card, or by letter, if you can use this service.

Very truly yours,

O. F. Benz,
Director of Sales.

M1031

"SELL IT FASTER THRU CELLOPHANE"

Defendant's Exhibit No. 360

DR1-48-R-1

DU PONT CELLOPHANE COMPANY, INC.

Manufacturers of Cellulose Film

350 FIFTH AVENUE — NEW YORK, N. Y.

GENERAL SALES OFFICES

December 16, 1935

97

18th PRICE REDUCTION
"CELLOPHANE" CELLULOSE FILM

Effective December 16, 1935, a further reduction is announced in the price of Cellophane, details of which appear on the enclosed price list.

This latest reduction is in line with the established policy of our company to lower prices whenever forecasts of increased volume permit.

Each year, since the domestic manufacture of Cellophane was started, has seen a substantial growth in usage. Each year has seen consumers everywhere showing a greater appreciation and preference for merchandise packaged in this manner.

While the price of Cellophane will always be incidental to the added sales value it gives to a product, nevertheless this latest price reduction will make its use more economical than ever before. It will permit you to give it consideration for any new or present products on which you are anxious to speed up sales in 1936.

Our nearest field representative will gladly offer packaging suggestions and furnish exact cost data. When will it be convenient?

Very truly yours,

O. F. Benz,
Director of Sales.

OFB:mdm

M-133

Cellophane TRADE MARK

"CELLOPHANE" IS THE REGISTERED TRADE MARK OF THE DU PONT CELLOPHANE COMPANY, INC.

TAXES, PRICE AND OR MAY BE IMPOSED UPON THE SALE OR PRODUCTION OF OUR PRODUCTS SHALL BE FOR THE ACCOUNT OF THE BUYER.

Defendant's Exhibit No. 351

DU PONT CELLOPHANE

Cellophane is the registered trade mark of Du Pont Cellophane Company, Inc. to designate its transparent cellulose sheets and films

DU PONT CELLOPHANE COMPANY, INC.

EMPIRE STATE BUILDING
350 FIFTH AVENUE
NEW YORK, N. Y.

GENERAL SALES OFFICES

May 2, 1932

Gentlemen:

14TH CELLOPHANE PRICE REDUCTION

86

In line with our established policy, and based upon the completion of expanded manufacturing facilities at our Buffalo, N. Y., plant, we are lowering the price of Cellophane, effective May 2, 1932.

These reductions include -

Type	Per lb.	Per 1,000 sq. in.
No. 300 Plain Transparent Cellophane	.03	.002
No. 450 Plain Transparent Cellophane	.03	.003
No. 300 Moistureproof Transparent Cellophane	.06	.003

Similar substantial reductions on practically all types of Cellophane. For Complete New Prices - See Price List Enclosed

Each year we see an increase in the appreciation of the consuming public to the advantages of Cellophane, which results in a decided preference for Cellophane packaged merchandise. Dealers have sensed this trend and recognized the unusual power of Cellophane to stimulate "impulse" sales, so today you will find Cellophane wrapped products featured in retail stores everywhere.

Manufacturers in many different fields have found by actual experience Cellophane offers the surest road to maximum sales in these difficult selling times on a wide variety of products.

This latest reduction is particularly timely in that it will permit the use of Cellophane on new items planned for Summer, Fall and the Holiday Season.

On such new items as you are contemplating, the services of our Package Development Department are at your disposal in securing the most practical and economical application of Cellophane. Let us know on the attached post card or by letter if you can use this service.

Very truly yours,

O. F. Benz,
DIRECTOR OF SALES.

ZFB
Enclosure
A

"SELL IT FASTER THRU CELLOPHANE"

M 1032

Defendant's Exhibit No. 361

C O P Y

E. I. du Pont de Nemours & Company
Incorporated
"Cellophane" Division

Empire State Bldg. New York, N. Y.

May 1, 1937

102

PRICE REVISION ON COLORED "CELLOPHANE"

Effective May 1, 1937

Due to increased ingredient and manufacturing costs, we are compelled to increase our prices on certain types of CELLOPHANE in which these advances are most seriously reflected.

PLEASE NOTE THIS PRICE ADVANCE APPLIES ONLY TO COLORED "CELLOPHANE" cellulose film shown on the attached sheet, effective May 1, 1937.

Prices on standard transparent films remain unchanged, as shown in our price list of December 16, 1935, notwithstanding a considerable increase in cost of manufacture.

Very truly yours,

(s) O. F. Benz

O. F. Benz,
DIRECTOR OF SALES.

M 1094

w
Attachment

Defendant's Exhibit No. 354

DcX-10

Du Pont Cellophane Company, Incorporated

EMPIRE STATE BUILDING
THREE-FIFTY FIFTH AVENUE
NEW YORK, N.Y.

General Sales Offices

May 14, 1934

91

16TH "CELLOPHANE" PRICE REDUCTION

EFFECTIVE MAY 14, 1934

TYPE	Per Pound, in Rolls New Price	Former Price
No. 300 Moistureproof Transparent Cellophane	.52	.56
No. 300 Plain Transparent Cellophane	.38	.40
No. 450 Plain Transparent Cellophane	.43	.45

For complete new prices, see price list enclosed.

This reduction represents a continuation of our Company's established policy of lowering the price of Cellophane cellulose film whenever increased usage of our product permits.

In this instance it is made possible by the greatly increased use of Cellophane in the baking industry on "variety breads" and "sweet doughs" and also on an ever-increasing list of new products. This announcement is made possible by manufacturing efficiencies which more than offset additional labor costs due to higher wages and higher costs of essential materials.

This reduction is particularly timely inasmuch as it will permit broader usage under today's conditions where unusual attractiveness of packaged products at the point of sale provides a definite method of stimulating interest on the part of the buying public.

To aid in the development of sales-stimulating packages, we offer the services of our organization. Our field representatives and our Package Development Department are at your disposal without obligation.

We hope you will call upon us.

Very truly yours,

M 237

O. F. Benz,
Director of Sales.

OFB DB

"Cellophane" is the registered trade-mark of Du Pont Cellophane Company, Inc.

Defendant's Exhibit No. 355

EXTRACT FROM REPORT OF PRESIDENT TO BOARD OF DIRECTORS

OF DU PONT CELLOPHANE COMPANY

June 19, 1934

"Cellophane"

Sales of moistureproof "Cellophane" in May represented 71% of the total, compared with 70% of the April total. The to-date average of 66% was above the 64% reported for to-date May 1933, as well as 65% for entire year 1933.

92 A total of 1,015 inquiries were received in May, or a 5% increase over April. On new package developments, the May total was 140 or 26% below the record April figure. Textiles again ranked first on new package developments with baked goods continuing second. Progress is being made in the development of machines to wrap textile items both of the semi-automatic and full-automatic type.

Our price reduction as of May 14th (58¢ to 52¢ on moistureproof "Cellophane" and 40¢ to 38¢ per pound on regular) was followed by the Sylvania Industrial Corporation. The manufacturers of cellulose acetate sheeting have also reduced their prices on "moistureproof" type of material to equal our new price for moistureproof "Cellophane", and have made some downward revisions in the prices of their "regular" type films as well. The reaction from our customers has been very favorable particularly in view of the rising costs of other wrapping materials. Sufficient time has not yet elapsed to reflect an increase in business due to our price reduction.

June sales of "Cellophane" in past years have shown a mixed trend. Decreases from May were shown of 7% in 1929 and 3.5% in 1931, while increases were indicated of 23% in 1930, 1.5% in 1932 and 18% in 1933. It now looks as if this year our June sales will be about 8% above May. We will not include in our "Cellophane" sales about 200,000 pounds of moistureproof semi-finished cellulose film which we expect to ship to Sylvania in June to help them. They had an unfortuante accident toward the end of last week in their Coating Area at Fredericksburg, Va., resulting in the death of one workman and the severe burning of several others. They will probably require another 100,000 pounds of material from us in July.

M836

Defendant's Exhibit No. 356

DC-1

DETACHED FROM DECEMBER 1934 REPORT

PRESIDENT TO (P.C. EX. COM. / "CELLOPHANE" BOARD OF DIRECTORS - 1/22/35.

***

Following discussion at our Board meeting, held on December 21, 1934, we decided to make our 17th price reduction on "Cellophane" effective January 7, 1935, involving a drop of 4¢ on moistureproof from 52¢ to 48¢ per pound, and of 2¢ on regular from 38¢ to 36¢ per pound, representing base prices for 300 gauge material in rolls for quantities of 500 pounds or more. We estimate that this decline approximates about 8% of our average price.

93 "Cel-O-Seal" Division:

As in recent years, sales of caps in 1934 resulted in a loss, which was offset by profits on bands. We made another advance of about 10% in the price of caps, effective January 7th, and at the same time reduced average prices of bands by about 5%, in the hope of stimulating the volume on profitable bands. During 1934, the volume was divided about 80% bands, and 20% caps. The liquor industry accounted for about 70% of our total sales in 1934, with 25% in toilet preparations and drugs. "Cel-O-Seal" caps and bands are used by about 25% of the bottlers of distilled spirits, which is a considerably larger percentage than any other seal concern is selling. We have worked very closely with the Government officials in Washington, and have been gratified to learn they have endorsed the use of our seals. Business has slackened down this month following the holiday period and the taking of

M 782

Defendant's Exhibit No. 337

DU PONT CELLOPHANE COMPANY, INC.

Manufacturers of Cellulose Film

350 FIFTH AVENUE — NEW YORK, N.Y.

GENERAL SALES OFFICES

January 7, 1935

94

17TH PRICE REDUCTION ON "CELLOPHANE"

EFFECTIVE JANUARY 7TH, 1935

Type		New Price	Old Price
300	Plain Transparent "Cellophane"	.36	.38
450	Plain Transparent "Cellophane"	.40	.43
300	Moistureproof Transparent "Cellophane"	.48	.52

The above prices cover reductions in roll stock. Similarly lowered prices apply to cut-to-size and stock size sheets. For complete details, see price list enclosed.

This reduction is in line with the previously established policy of our company to lower the price of Cellophane cellulose film as forecasts of increased volume permit. Today's price of 36 cents per pound compares with the original price of $2.65 per pound when manufacture was begun in this country -- a reduction of over 86%.

Important increased uses of Cellophane during the year have been for wrapping hosiery and other textiles, specialty bread and sweet dough items, smoking and chewing tobacco, as well as its rather interesting application in narrow slit form as a fabric for dresses and other apparel.

It is anticipated these new lower prices will allow immediate consideration of Cellophane on a number of products where complete visibility, added eye-appeal of the package and improved protection are quite certain to be important in stimulating sales in the coming year.

When you are planning any new units or package improvements for 1935, we will be very glad to assist you in determining to what extent Cellophane will fit into your plans. Our nearest field representative is at your disposal. We hope you will call upon us.

Yours for a successful year,

O. F. Benz,
Director of Sales.

M1033

OFB MdM

M1033

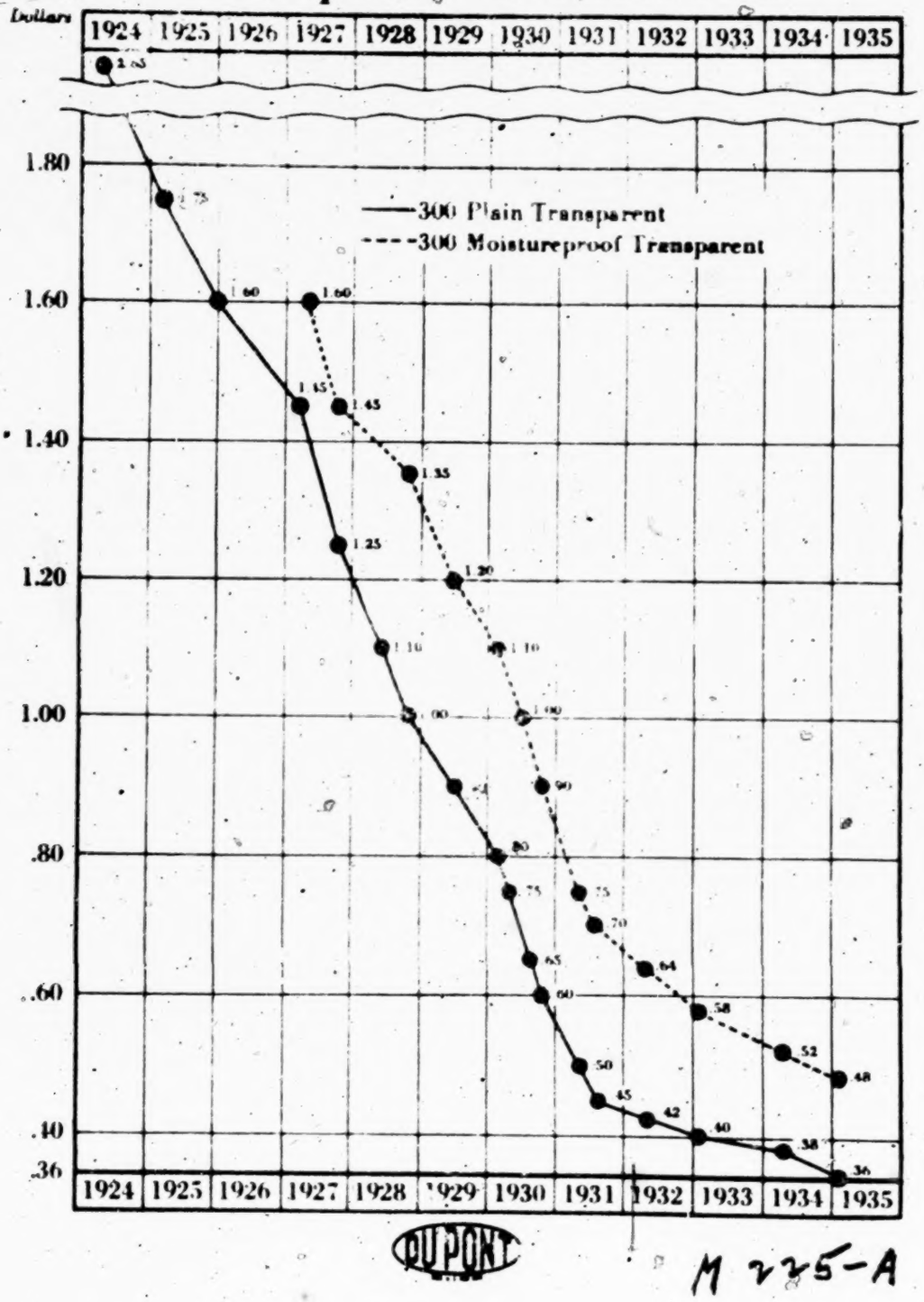
Cellophane TRADE MARK

"CELLOPHANE" IS THE REGISTERED TRADE MARK OF THE DU PONT CELLOPHANE COMPANY, INC.

TAXES WHICH ARE OR MAY BE IMPOSED UPON THE SALE OR PRODUCTION OF OUR PRODUCTS SHALL BE FOR THE ACCOUNT OF THE BUYER.

Defendant's Exhibit No. 358

Pound Price of Roll Stock
"*Cellophane*" Cellulose Film



DUPONT

M 225-A

Defendant's Exhibit No. 359

EXTRACT FROM MARCH 1935 REPORT OF

PRESIDENT TO BOARD OF DIRECTORS

DU PONT CELLOPHANE COMPANY

APRIL 22, 1935

Under date of April 15, 1935, we made a 25% reduction in the price of colored and embossed "Cellophane", the sales of which represent about 10% of our regular "Cellophane" business, but only about 3% of our total sales as very little is sold in form of moistureproof stock. This change was followed by our principal competitor. We hope this will stimulate sales of these specialties, our lower prices being more in line with offerings of transparent sheeting in colors made by foreign concerns.

In this connection, an importing house in Los Angeles has been soliciting business for Japanese material under the name of "Cellophane". Formal protest has, of course, been filed, threatening legal procedure if they fail to cease using our trade-mark. Some time ago, we ran into a similar proceeding in Cuba, and were successful in having the Cuban customs authorities uphold our trade-mark and refuse importation of Japanese material as "Cellophane".

Sylvania Industrial Corporation's royalty check for $11,666.58 has been received and will be included in Net Receipts for April. The 2% royalty under our license actually amounted to $11,897.25 on sales of 1,261,495 pounds of moistureproof material during the first quarter of 1935, credit of $230.67 having been taken on account of overpayment in advance for last quarter of 1934 before calculations were completed. Sylvania's sales during the first quarter represented 15.8% of the combined sales of their Company and ours in that period. This compares with an average of 17.4% for the entire year 1934, and for the four separate quarters of that year, 17.2%, 18.6%, 15.2%, and 18.4%, respectively.

We received a total of 705 inquiries in March, a drop of 13% from February, following a decrease of 30% in the latter month from January. New package developments increased from 125 in February to 129 in March. There are a number of cases where on account of uncertainties it is difficult to get decisions as to the adoption of new packages. There were a total of 364 new items reported released by first and second class customers during March as compared with 323 in the same month last year. Candy represented 82 items, while cake, sweet doughs and special breads accounted for 188, these two making up 74% of the total new items wrapped in "Cellophane".

Sales of "Cellophane" in April usually fall behind March, the range being from 3.7% in 1929 to 17% in 1931, an exception being noted in 1933 when there was an increase of 9%. Last year, the decrease amounted to 9.5%, and the indication is for approximately the same ratio this April.

Our #2-1935 Forecast for year beginning April 1, 1935 contemplates sale of 43,700,000 pounds of "Cellophane", an increase of 1.6% over the #1 Forecast for the calendar year 1935.

M1394

Defendant's Exhibit No. 362

June 17, 1938.

MR. O.F. BENZ.
DIRECTOR OF SALES
"CELLOPHANE" DIVISION.

Returning herewith the attached letter addressed to Mr. Lock regarding present prices of "Cellophane" in relation to cigarette costs.

It is true that our last general price revision downward was made in December 1935. Subsequent to that price revision downward, however, during 1936 and 1937 there were substantial advances in our payroll labor rates and also substantial advances in the price of wood pulp. Also during 1936 and 1937 the price of glycerine advanced from around 13-3/4¢ to as high a point as 29-1/2¢. During that same period in the last two years the cost of industrial relations having to do with Social Security charges, with old age pensions and with vacations with pay for payroll labor, brought about by labor agitation, increased as much as 400%.

As you know, during 1937 we were obliged to give consideration to the possibility of increasing the price of "Cellophane", but because of our record of 18 price declines, we decided to accept these increased costs and maintain our current prices in the belief that some of these advanced costs would reduce themselves as has been done to some extent during recent months. Our costs today are not as low, however, as they were in 1935 by a very considerable volume, at the time when the present prices were established. The following detail will furnish some established facts for discussion of this subject by Mr. Lock in talking to those interested.

At the moment, using our May costs for these figures, our payroll labor is increased 31% in hourly and average rates over the rates in effect in December 1935. This was brought about by two increases in 1936 and one increase in 1937. During 1936 also there was a general salary increase to all employees.

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M 1039

The price of wood pulp is still 36% higher than the price in effect when the present prices were made. As of December 1935 we were paying from $60-65 per ton for various grades and at the present moment we are obliged to pay from $82.50-90 per ton for similar grades of material.

In glycerine, the 13-3/4¢ price in effect in 1935 advanced during the last two years as high as 29-1/2¢ and is now down to 15-1/4¢ for the special water-white grade we use, which is still 11% higher than the minimum figure of 1935; and during the period mentioned the price has been as high as 113% increase over the 1935 prices.

The cost of these special industrial relations referred to has advanced from 2% of our payroll to an amount approximating 10% of our payroll, and these are charges that we cannot avoid because they are based on government regulation in most part.

From the above it will be evident that we have been fortunate indeed to have been able to hold our prices at the figures named in 1935 notwithstanding these increased costs. We still have hopes that we will ultimately sell "Cellophane" for less money than the present levels, as the volume increases and as our ability and efficiency to produce still better goods at present or lower costs is attained.

I, of course, cannot say at the moment that it will or will not be possible for us to reduce these figures in the future, but our entire disposition is directed toward this end and the hope of making "Cellophane" so attractive in quality and in value to its consumers that will justify the use of increasing quantities of it on their part.

This detail is intended to be used as a basis of discussion of actual facts rather than to be set forth in detail for broadcast use. The data given are absolutely correct, however, and may furnish a basis of a proper presentation of our position. I would be very happy myself today to be able to announce lower prices on "Cellophane" if it were economically and soundly possible so to do.

J.E. HATT
DIVISION MANAGER

JEH:LMP

M-1039

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Defendant's Exhibit No. 363

E · I · DU PONT DE NEMOURS & COMPANY · INC.

Manufacturers of

"CELLOPHANE" DIVISION — **WILMINGTON · DELAWARE**

December 5, 1938

06

19th PRICE REDUCTION

"CELLOPHANE" CELLULOSE FILM

Effective December 5, 1938, we announce a further reduction in the price of "Cellophane" cellulose film. This is the 19th reduction in prices since domestic manufacture of "Cellophane" was started in 1924, continuing the established du Pont policy of lowering prices whenever increased volume permits.

Our forecast of continued improvement in general business conditions and the increasing use of our product in present and new markets calls for expansion in production facilities. This will result in lower costs which, as in the past, are passed on to our customers.

The continued growth of our business is due, undoubtedly, to the increasing sanitation consciousness of the American public. "Cellophane" provides the desired protection for the product as well as visibility and enhanced appearance.

This latest reduction is particularly timely. It will permit you to give renewed consideration to "Cellophane" for any new or present products on which you are particularly anxious to speed up sales in 1939.

The services of our field representatives as well as our Package Development and Technical Service Departments are at your command in enabling you to utilize "Cellophane" most effectively and economically.

The new price list is enclosed.

Yours very truly,

O. F. Benz,
Director of Sales.

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DUPONT

M 1035

Defendant's Exhibit No. 364

E. I. DU PONT DE NEMOURS & COMPANY, (INC.)

Manufacturers of

"CELLOPHANE" DIVISION — Cellophane — WILMINGTON, DELAWARE

October 30, 1939

ANNOUNCEMENT
20TH PRICE REDUCTION
"CELLOPHANE" CELLULOSE FILM

109

Effective October 30, 1939, we announce a further reduction in the price of standard types of "Cellophane" cellulose film. A copy of the new price list is enclosed.

This is the 20th consecutive reduction in price initiated by du Pont since the domestic manufacture of "Cellophane" was started in 1924. As in the past, it is made possible through increased use of our product by our many customers, involving a substantial number of new units released in "Cellophane" this past year and every evidence - war or no war - of an increasing business in 1940. Moisture-proof "Cellophane" shows the greatest increase in use and therefore carries the greatest price reduction.

The continuous increase in the use of "Cellophane" from year to year is undoubtedly traceable to a growing preference on the part of the buying public for products enjoying the advantages of complete visibility and/or sanitary protection plus the added attraction which packaging in "Cellophane" affords.

At this time, when price increases are prevalent throughout all industry, it is particularly gratifying to be able to announce a reduction, which should be helpful in reducing packaging costs in many different fields.

Our trained merchandising specialists in the field will be glad to work with you in refiguring costs, based on these new lower prices, and to give constructive assistance in the use of our products. Their objective is to help determine where and how "Cellophane" can be profitably used and its most effective and economical application.

Very truly yours,

O. F. Benz,
Director of Sales

A

DU PONT

BETTER THINGS for BETTER LIVING . . . THROUGH CHEMISTRY

M1036

Defendant's Exhibit No. 365

EXTRACT FROM REPORT OF CELLOPHANE DIVISION

MONTH OF OCTOBER 1939

DATED NOVEMBER 16, 1939

V. SALES COMMENTS:

Sales of 8,228,664 pounds exceed September, the previous record month, by 1,244,867 pounds. This is 2.8% above forecast and 1,671,628 pounds, or 25.5% ahead of last October. This brings the increase for

110

M838

the year to-date to 10, 64,416 pounds or 20.4% and for the 12 months ending October 31, 1939 volume is 19.6% above the year ending October 31, 1938.

This jump to over 8,000,000 pounds in October completely skips the 7-8 million pound bracket which total had not been reached in any month heretofore.

During the past five years the October increase over September has averaged 10.8%. Last year was an exception in that the October increase was 15%. The increase this October over September is 17.8% or considerably above last year and the five year average. However, 175,000 pounds of October's volume represents export business shipped in September. This was not cleared in New York until after the close of the month and was, therefore, included in October's billings. Shifting this business to September, the October increase becomes 12.5%.

A comparison of sales (pounds) by quarters 1939 vs. 1938 follows:

	1939	1938	% Increase	% Increase 1938 vs. 1937
1st Quarter	16,048,958	14,049,023	14.2	- 2.6
2nd "	18,099,1[illegible]2	15,090,195	19.9	- 4.2
3rd "	19,896,332	16,010,406	24.3	3.9
October	8,228,684	[illegible],57,036	25.5	4.4
	62,271,076	51,706,660	20.4	- 0.3

Assuming sales of 12,000,000 pounds (forecast) for the final two months of the year, the percentage of the total year's business by quarters for 1939 as compared with 1938 will be as follows:

	1939	1938
1st Quarter	21.6	22.8
2nd "	24.4	24.5
3rd "	26.8	26.1
4th "	27.2	26.6
	100.0	100.0

Price Reduction:

Effective October 30th "Cellophane" prices were reduced an average of .0245 per pound or about 6%. On the basis of 1939 sales this will reduce net receipts by approximately $1,800,000. annually.

Reductions in the 500 pounds and over bracket are as follows:

	10/30/39 Price	Previous Price	Reduction
300 MRC	.65	.72	.07
300 MSC Dark	.65	.72	.07
300 MSC Light	.55	.60	.05
300 LAC	.65	.70	.05
450 MSC	.70	.75	.05
600 MST	.70	.75	.05
300 PRC Tango	.50	.54	.04
300 MSDT	.44	.48	.04
450 MST	.46	.50	.04
300 MT	.41	.44	.03

	10/30/39 Price	Previous Price	Reduction
300 MAT	.57	.60	.03
600 PT	.45	.47	.02
300 PT	.33	.34	.01
300 PET	.54	.55	.01
300 PC Light	.45	.46	.01
300 PC Dark	.49	.50	.01
450 PT	.38	.39	.01

The only stock items not reduced in the 500 pound bracket were 300 LT, 300 LAT, 200 LST and 300 PC Brown and Black. Corresponding reductions were made in the maximum brackets in stock size and cut size sheets. Advantage was taken at this time to adjust some inequalities existing on certain types of film in the lower brackets. A number of prices in these classes were adjusted upward while reductions were made in others considerably in excess of the changes in the maximum quantity brackets.

112

The reaction to this our 20th price reduction undoubtedly brought more favorable comment and letters of appreciation than any previous reduction. Complimentary letters were received from many important accounts, such as:

Liggett & Myers
P. Lorillard
Brown & Williamson
United States Playing Card Co.
Glassips, Inc.
General Baking Co.
Ready Foods Co., Inc.

Numerous competitive accounts have been regained and many others have promised their future business. Notable among these are:

Walter Johnson Candy Co.	Chicago
Mama Cookie Co.	Chicago
Frank Cookie Co.	Nashville
Pioneer Baking Co.	New York City
Lander Co.	New York City
Candy Crafter	Lansdowne, Pa.
Peter Fossi & Sons	Braidwood, Ill.
Mayflower Doughnut Co.	Twenty Locations
Bold Baking Co.	Pittsburgh, Pa.
Gauss Baking Co.	2 Locations in Michigan

Many non-users or small users are expected to reconsider the use of "Cellophane" on a cost basis and considerable new business is hoped for from these potential customers.

M838

Defendant's Exhibit No. 366

EXTRACT FROM REPORT OF CELLOPHANE DIVISION

MONTH OF NOVEMBER 1939

Price Reduction:

Last month we advised that the general price reduction effective October 20th did not apply to a few special types of film. Since that date our competitor has reduced the price of three of these items, namely, L.T., L.A.T., and L.S.T. This competition is being met by reducing these three types of film 3¢ per pound each in the 500 pound brackets as well as the usual adjustment in the lower brackets. M839

113

Defendant's Exhibit No. 367

November 27, 1940

MR. L.B. STEELE

13 I quote the following from the proof you left with me for my opinion.

"However, at times prices of cars have been set below manufacturing costs in order to provide quantity sales. That kind of price policy, as we have already seen, tends to discourage competition. Doubtless it has that effect with cellulose film, which is confined to few producers."

I don't think we should approve this proof without making an effort at least to change that quotation. In the first place it leaves an impression that is not correct. In the second, it quotes a statement regarding automobiles that is only a supporting statement to the discussion on "Cellophane" film and one that is subject to considerable question. Certainly such a statement shouldn't bear our approval in relation to our material.

In the first place, after the word "However", or in place of that word, that sentence might start with the phrase "It has been claimed by some that". This way you are not endorsing the statement that cars have actually been priced below the cost of manufacture but you are representing that some people claim that they have been so priced, and whether they have or not it has no bearing on the facts relating to our material.

There are several points to be made in support of this statement. One is the patent position which we developed in connection with the moistureproof material, which is nearly 80% of our volume today and on which the big growth has been had because it provided a type of material which previously had not been available. And with this material it was absolutely necessary for us to get the price per pound down so that small articles of five and ten cent value sold in large quantity every day could economically afford the protection of a moistureproof wrap. This is the point that necessitated price reduction. It was not done to discourage competition and competition was largely deterred in engaging in the manufacture of a similar or duplicate material on account of the patent protection we enjoyed. Church had created an entirely new type of product and was entitled to the protection of patent coverage.

M1037

Another very important factor was the fact that a tremendous investment in plant was required in proportion to total sales to produce this material at low cost. This deterred many manufacturers because the risk of a big investment is great and the product was new and a great many of them were not certain that it was going to prevail. Had it been possible to engage in the manufacture of a similar material with a smaller investment we should undoubtedly have had more manufacturers of the plain type, but even on this basis they would have been restricted from availing themselves of our research which resulted in patent development on the moistureproof quality. Even today when the volume of the material is pretty generally known, there are many large concerns who would probably engage in this manufacture if it could be done with a reasonable venture, except for the patent protection and the excessive investment required.

14

In reference to that type of price policy, it would have been much stronger in this article to say that this continually lowering of prices has made it possible for a much larger proportion of the public to avail themselves of the protection of a material of this type than would have been possible if it had been kept on a high-price specialty basis.

If the author of this article is at all reasonable, and he seems to be in his relations with you, it should be possible to show him that point and to point out also that we never could have made the prices we did make except by very greatly increased investments to make mass production possible at low costs, rather than to continue on the basis of the cost of manufacture to us in the early days. Even after we reached the point where we had a sizable volume, the cost to us to manufacture was much greater than the present selling price. Also, the fact remains that we have licensed under our patents the principal other manufacturer of thin transparent film at a nominal royalty and this is certainly not indicative of a monopolistic attitude.

To summarise all the above, he might substitute for that part of this article quoted by inserting a sentence after the words "quantity sales" the following: "Whether the claim regarding automobile prices mentioned above is true or not, the result has been that a large part of the public are now able to avail themselves of high-grade transportation at low costs".

The article might continue from there on with this further sentence. "Without doubt the reduction of price to the public as quantity of production and sales increased has been the determining factor in the widespread markets developed for "Cellophane" film and the similar products produced by other manufacturers".

M1037

I recognize that you cannot influence in too much detail the trend of this article, but that one reference stated as incorrectly as it is, is sufficiently unfair in its implications regarding our policy that it destroys the major portion of the value of the rest of the material so far as we are concerned and it implies a situation in the establishment of that policy that is definitely not true.

I hope you will be able to have it revised, or if this is not possible, to eliminate the objectionable phrases entirely.

15

J.E. HATT
DIVISION MANAGER

JEH:G

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M1037

Defendant's Exhibit No. 368

A-1844

E. I. DU PONT DE NEMOURS & COMPANY (INC.)

Manufacturers of

"CELLOPHANE" DIVISION **WILMINGTON, DELAWARE**

October 28, 1941

114

Enclosed is a new price list for "Cellophane" cellulose film effective November 1, 1941.

We wish to call your attention to the following important changes:

1. Area per pound of all films has been increased approximately 8% - with no increase in price per pound.

2. Prices of out-to-size sheets have been reduced approximately 8%. Prices on "stock size" sheets have been discontinued.

3. Cash discount has been discontinued - terms now 30 days net.

In entering your orders, be sure to figure your requirements on the new area factors. You will require 8% less pounds of rolls than heretofore to wrap the same number of packages.

Yours very truly,

C. F. Brown,
DIRECTOR OF SALES

CFB MdM

M1108

BETTER THINGS for BETTER LIVING ... THROUGH CHEMISTRY

Defendant's Exhibit No. 369

CELLOPHANE PERMANENT INVESTMENT

Cellophane was manufactured in the United States for the first time in 1924. Twenty years' production experience has brought about many changes in technique but the basic process remains the same. In the first ten years of operation, it was expected great progress would be made, the quality would be improved, and cost and investment would be reduced. Prices were reduced sharply as these improvements materialized and the cycle of lower cost, lower price and increased volume began.

The second ten years of Cellophane operation just completed was a period when the answers were not so obvious. The chemical and mechanical knowledge of the du Pont Company had to be applied through careful study of each problem as there was an inter-relationship of these problems. The results show the effectiveness of this intensive application of experience and ability.

16

In 1934 the Cellophane annual permanent investment per pound of film produced was .52. By 1939 this investment had been reduced to .37, and it is estimated that this year it will reach .33. This represents a reduction in permanent investment per pound of production in ten years of 36.5%.

The reduction in permanent investment per pound of production has resulted from a number of factors too numerous to evaluate in detail. The importance of waste reduction through improvements in quality resulting from chemical and mechanical improvements cannot be overemphasized. In 1934 the average finishing waste was 8.8%, whereas in 1944 it is expected to be 4.0%. By the reduction of waste we have automatically increased the productivity of our equipment and thereby reduced the investment per pound of production. The reduction of waste was the major part of the objective, and therefore becomes a part of each specific improvement.

The permanent investment required to produce viscose in 1934 was .0696 per pound of production. The wood pulp that we were using at that time was considered satisfactory for our use. It was felt, however, that this wood pulp could be improved. In conjunction with the manufacturer of wood pulp, tests were carried on over an extended period of time resulting in a lower viscosity wood pulp being developed for the manufacture of cellophane. Improved viscose filtration and decreased aging time resulted from the use of the new pulp. Improvements in design of viscose mixing equipment reduced the mixing cycle and improved shredder design decreased the shredding time cycle, thereby making our Chemical Building facilities more productive. In 1944 our permanent investment required to produce viscose is .0446, a reduction in investment in ten years of 35.9%.

The investment in casting, or film forming operation, in 1934 was .2010

M 270 B

per pound of production. The estimated investment in 1944 is .1192 per pound of production, or a reduction of 45.7% in ten years. This operation is the most important from the standpoint of investment in the manufacture of cellophane. This investment in buildings and equipment comprises about 1/3 of the total fixed investment. In the past ten years the operating speeds of our casting equipment have been steadily increased to the point where present operating speeds are from 40% to 60% greater than they were in 1934. These increased speeds were made possible by improved filtration of viscose, counter current washing and bleaching treatment, and improved wet-end rolls. In addition to increasing the productivity of the equipment, the quality of the product was improved by the use of Illium instead of nickel in the hoppers from which the viscose is extruded. This reduced streaks, film breaks, hopper reconditioning, and waste. The hoppers were also increased in width about 10% during this period. Conditioner units were installed for the production of uncoated films which permitted production of a flatter sheet, thereby improving quality and reducing waste. The sizing process was improved, which reduced sticking and improved glue receptivity. Both of these items contributed materially to quality improvement and thereby made the films more readily adaptable for various uses.

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The coating operation on cellophane was pioneered by du Pont. The first coated, or moistureproof, film was manufactured in 1927. The equipment in this operation was du Pont designed and constructed. The permanent investment in this equipment in 1934 was .0477 per pound of production. This investment has declined to .0350 in 1944, or a reduction in investment per pound of production of 27%. As was the case in the casting operation, the productivity of each piece of equipment was improved through increased speeds. These increased speeds were made possible by improved tower design and the better application of coating lacquers through the use of doctor rolls. The importance of this particular operation is best demonstrated by the fact that today over 80% of our total production is moistureproof.

The progress made in the Finishing Area in reduction of permanent investment per pound of production is not very impressive at first glance. In 1934 our investment was .0259 per pound of film produced and in 1944 was .0256, a reduction of 1%. During this period, however, through the design of heavier and better balanced equipment, we were able to increase our slitting rate per unit substantially from 325 feet per minute in 1934 to 710 feet per minute in 1944. The improvement in machine speeds did not reflect in investment because in 1934 we were operating our Finishing Areas on a three-shift basis seven days a week. Today at two plant locations we operate two shifts per day six days a week and at the other two locations one shift per day six days a week. Labor costs in this operation were reduced approximately 10% under the present plan of operation. There remains, however, considerable flexibility so that production could be added without increasing investment by adding an additional shift.

M 270 B

The result of the many chemical and mechanical improvements in the past ten years makes it possible today to produce a greatly improved film with an investment in the four operating areas mentioned above of approximately $12,000,000 less than would have been necessary for the same production in 1934.

The investment shown by areas does not include Power, shops, land or other general facilities. Most of this investment is used jointly with the Rayon Division. The investment in these facilities per pound of production has also been reduced substantially but represents a joint accomplishment which would be difficult to evaluate to each product.

CELLOPHANE DIVISION

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By: C. A. Haley

M 270 B

Defendant's Exhibit No. 370

E. I. DU PONT DE NEMOURS & COMPANY (INC.)

Manufacturers of

RAYON DEPARTMENT
CELLOPHANE DIVISION

DU PONT Cellophane

WILMINGTON 98
DELAWARE

December 30, 1946

115

NEW CELLOPHANE

PRICE SCHEDULE

Enclosed you will find new price list covering Du Pont Cellophane regenerated cellulose films effective January 1, 1947.

The only significant change is that prices on small quantities have been discontinued. We now sell each type of film at one price only for rolls and one price only for sheets - and those prices are the lowest prices previously in effect. Customers who desire to order in smaller quantities than the minimums specified in the price list will be referred to convenient sources of supply.

All orders will be accepted subject to change in price without notice, to be billed at prices in effect on date of shipment.

Additions to our production facilities have been under way since September 1945, but have been seriously delayed by circumstances which, we are sure, you recognize are beyond our control. Every effort is being made to increase our capacity as fast as possible and it is our hope and expectation that a substantial increase in production will be achieved during 1947. Pre-war, Du Pont provided adequate facilities to meet the requirements of its customers and will do so again as rapidly as conditions permit.

We wish to take this opportunity of expressing our appreciation of your forebearance and cooperation during the difficult conditions of the last few years, and hope it will not be long before we can again serve you adequately in all respects.

Very truly yours,

C. F. Brown,
DIRECTOR OF SALES.

CFB:CPA
enclosure

M1109

DU PONT

BETTER THINGS *for* BETTER LIVING...THROUGH CHEMISTRY

Defendant's Exhibit No. 371

EXTRACT FROM MONTHLY

SALES REPORT FOR JANUARY 1947

FEBRUARY 7, 1947

Converters

Our new sales policy has caused little comment in the trade. No unfavorable reaction has been noted.

New standard label agreements have been signed by 75% of those previously on agreement. The agreement is being presented to all logical customers including two source of supply accounts.

Progress has been made in the promotion of flame resistant films for hazardous uses. In January 18,000 lbs. were shipped for such uses. This is nearly double the 1946 monthly average and further increases are expected as allocations are increased. Publicity at the holiday season regarding fire hazards in the home and a California law prohibiting the use of other than flame resisting materials for decorations are helping our cause.

The demand for Cellophane from converters for packaging frozen foods has softened. The same applies to a lesser extent for cheese packaging due to present high prices.

Minnesota, Mining & Manufacturing Co. have won the appeal of their suit on every count against International Plastic Corp.

Sales of Cellophane waste during 1946 were as follows:

TYPE	POUNDS	VALUE
Reject Rolls	215,269	$55,236.
Trim Rolls	4,348	1,162.
Trim Spools	518,964	79,900.
Streamers	28,721	8,598.
Baled Waste (Parlin)	3,805,249	114,187.
Other Baled Waste	278,424	21,151.
Reject Sheets	110,360	23,114.
Flake	217,359	32,503.
TOTAL	5,178,696	$335,851.

We are actively exploring markets for baled waste to replace that being currently supplied to Parlin. Several uses are in the process of development which may represent a market for waste of considerable potential.

Export

Import permits are being issued sparingly in Chile, Costa Rica, Nicaragua and Peru due to the shortage of dollar exchange. To date, however, we have successfully distributed allocations to these countries. In spite of exchange difficulties the export market is much greater than our present ability to supply.

We have been informed that 18 Transwrap machines have been sold in Cuba and 10 in Colombia for packaging coffee. These machines are scheduled for

M1396

FILE COPY

delivery by the end of this year.

Our Cuban representative has written that Belgian film is being offered there at 95¢ and $1.00 per pound for 300-PT and 300-PC respectively, f.o.b. Antwerp.

Numerous reports indicate that our prices are substantially under prices being quoted for foreign makes of Cellophane in the various export markets.

Competition

Viscose

Sylvania Division of American Viscose Corp., announced an increase in the price of their 300-PT and PC of 5¢ per pound; 450-PT was increased 2¢ per pound. The announcement was dated January 22, 1947. They retained the 1% - 10 days. Yield remained the same.

As far as we can learn from the trade, their distribution is erratic and puzzling to their customers.

Rubber

Goodyear revised their prices upward on certain types of Pliofilm on January 10th by approximately 10%.

Waxed Glassine

Riegel Paper Co., is putting on a concerted drive on printed glassine - attempting to capitalize on the high cost of printed Cellophane.

Complaints

There were 13 complaints during January, compared with 8 for December. Adjustments for the month were $598.67 as compared with $760.43. $657.33 and $546.29 respectively were for quality reasons.

M1396

JED:JL

CFB:JL

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EXTRACT FROM MAY 1947
REPORT OF RAYON DEPARTMENT
TO EXECUTIVE COMMITTEE
JUNE 27, 1947

Cellophane

Operative earnings of the Cellophane Division of $825,000 were $263,000 or 24% below the No. 2 Forecast, largely because production of 11,400,000 pounds of film failed to meet the forecast by some 700,000 pounds or 6%, due to delay in fully realizing the new capacity at Clinton. The difficulties with the electrical drives on casting machines and coating towers are being solved in a satisfactory manner and completion of corrective measures to permit full operation of the plant is now expected early in July.

The overall demand for cellophane continues substantially in excess of supply although there is spotty weakness characteristic of a readjustment period.

We plan to increase the gauge or thickness of some types of cellophane film by the end of the current month. At the beginning

M1398

of the war we reduced the gauge to increase the area of film which could be produced from the poundage to which we were restricted by Governmental conservation measures. The thinner films were generally adequate but not entirely satisfactory in the subsequent fabrication of various containers, such as bags, etc. We now will restore the pre-war gauge on somewhat more than half of our output. Although our price per pound remains unchanged, this move will increase the area cost to the affected customers by approximately 7%. Competition increased the price on plain film 5 cents per pound some time ago and on moistureproof film 3 cents per pound effective June 1. On such of our films where we propose to increase the gauge, the area cost will roughly equal that of the competitive product. The change of gauge will increase our volume of production by approximately 7,000,000 pounds per year.

As to glycerine, the important cellophane softener, we have recently been able to purchase some 900,000 pounds for delivery until August at 30 cents per pound with protection against declining prices. The price of the big soap producers was reduced to 40 cents per pound on June 2 but is now expected to again be reduced further. This compares with a domestic peak price of 55 cents per pound and a ceiling price of 18 cents during the price control period.

M:398

Defendant's Exhibit No. 373

GENERAL BULLETIN

NO. 50

T. L. [redacted]

August 22, 1947

PRICE CHANGES - EFFECTIVE OCTOBER 1ST

The attached letter and new price list were mailed to all active customers today. October business will be booked at these new prices.

As stated in our letter, the entire price structure has been revised, involving price increases where costs have sharply advanced and reductions where costs permit.

A price relationship now exists between our various types of films that provides a sound basis on which to build business for the future. These changes encourage the use of coated, anchored and heavier gauge films by materially reducing their price differentials (see attached table).

The increased price of PT may cause some shifting of business to moistureproof. In many instances moistureproof films may be more effective.

We have sound reason to be proud of our price record. During six years of continuing and substantial increases in all costs of manufacture and construction, we have held the fort while other materials in the packaging industry have materially advanced.

We can and should be proud of this record.

C. F. Brown,
DIRECTOR OF SALES.

NOTE: Attached are revised pages for your P. & I. Book, giving new prices for all standard films, new schedule of discounts for seconds, new schedule of premiums for special O.D. rolls (including 8-inch) and change in maximum size of sheets; also, a comparative price table and 25 extra price lists - more are available at your District Office.

pd
Enclosures:

1. Announcement letter to trade
2. Table of price differentials
3. Revised P. & I. Book pages (DESTROY ALL OBSOLETE SHEETS)
4. Comparative price table
5. 25 extra price lists

M 385

E. I. DU PONT DE NEMOURS & COMPANY (INC.) CELLOPHANE DIVISION

E. I. DU PONT DE NEMOURS & COMPANY (INC.)

Manufacturers of

RAYON DEPARTMENT
CELLOPHANE DIVISION

WILMINGTON 98
DELAWARE

August 22, 1947

PRICE CHANGES ON DU PONT CELLOPHANE
EFFECTIVE OCTOBER 1ST, 1947

118

Attached is a new schedule of prices on Du Pont Cellophane, effective October 1st, 1947. Orders which have been accepted for shipment prior to that date will be billed at present prices.

Ever since Du Pont started manufacture of cellulose film, it has been our policy to reduce prices whenever production costs permitted and 21 price reductions have been made.

During the past six years, continuing and substantial increases in the cost of materials and labor have greatly increased production costs. In some instances, however, improvements in manufacturing techniques have reduced or offset these increases.

For these reasons, a change in our entire price structure has become necessary, involving price increases where costs have sharply advanced and price reductions where costs permit. The most important changes are:

(a) A price increase of 3¢ per pound on 300 MT and MST moistureproof rolls.

(b) A price increase on non-moistureproof rolls amounting to 9¢ per pound on 300 PT and 5¢ per pound on 450 PT.

(c) A price reduction on anchored moistureproof MSAT rolls amounting to 3¢ per pound on 300 gauge and 7¢ per pound on 450 gauge.

(d) A price reduction of 1¢ per pound on 450 MST rolls.

(e) Sheet prices have been advanced to compensate for increases in thickness recently announced.

We wish to take this opportunity of expressing our appreciation of the business you have placed with us and our desire to serve you in such a way as to merit its continuance.

Very truly yours,

C. F. Brown,
DIRECTOR OF SALES.

CFB:CP

BETTER THINGS for BETTER LIVING . . . THROUGH CHEMISTRY

M 385 A

PRICE DIFFERENTIALS

	PRESENT	EFFECTIVE 10/1/47	COMPETITIVE VISCOSE FILM
COATING			
3 gr.* Vs. PT	$.08	$.02	$.06
4.5 gr.** Vs. 3 gr.	.05	.05	
MAT Vs. MST	.09	.06	
MSAT Vs. MST LAT Vs. MST LSAT Vs. MST	.16	.10	.16
GAUGE			
450 Vs. 300	.05	.01	PT .02 MT .05
600 PT Vs. 450 PT	.07	.05	.05
600 MT Vs. 450 MT	.08	.05	.08
COLOR			
Light Vs. 300 PT	.12	.12	.12
Dark Vs. 300 PT	.16		.16
Light Vs. 300 MT	.14	.13	.14
Dark Vs. 300 MT	.18		.18

* All moistureproof films, except 56, 57 and 84.

** MST-56 and 57 and MSAT-84.

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M 385

CELLOPHANE PRICES

	ROLLS			SHEETS		
	Present	Effective Oct.1,1947	Comp.	Present	Effective Oct.1,1947	Comp:
300 MT	$.41	$.44	$.44	$.023	$.025	$.025
300 MST-51, 58	.41	.44	.44	.023	.025	.025
300 MST-52,53,54	.41	.44	.44	.023	.027	.025
300 MST-56,57	.46	.49	-	.027	.031	-
300 LST	.41	.44	-	.023	.027	-
300 MSDT	.41	.44	-	.023	.027	-
300 MSC (1st group)	.55	.57	.58	.034	.035	.036
300 MSC (2nd group)	.59	-	.62	.037	-	.039
300 MAT	.50	.50	-	.029	.029	-
300 MSAT (Ex. 84)	.57	.54	.60	.032	.033	.034
300 MSAT-84	.62	.59	-	.037	.038	-
300 LAT, LSAT	.57	.54	-	.032	.033	-
300 LAC	.65	.65	-	.040	.040	-
450 MST (Ex. 56,57)	.46	.45	.49	.039	.039	.042
450 MST-56,57	.51	.50	-	.045	.045	-
450 MSAT (Ex. 84)	.62	.55	.65	.054	.047	.057
450 MSAT-84	.67	.60	-	.060	.053	-
600 MST	.54	.50	.57	.060	.052	.063
300 PT	.33	.42	.38	.017	.024	.02
300 PC (1st group)	.45	.54	.50	.024	.030	.027
300 PC (2nd group)	.49	-	.54	.026	-	.029
300 PRC Tango,Black	.50	.62	.55	.028	.035	.031
450 PT	.38	.43	.40	.030	.035	.032
600 PT	.45	.48	.45	.047	.047	.047

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M 385

PRICING INSTRUCTIONS

ROLLS

MINIMUM QUANTITY ORDER
500 lbs.

DIAMETER
Standard outside diameter is 9-1/2" ± 1/4", yielding 3 pounds of Cellophane per inch of width.

Rolls may be obtained in specified non-standard outside diameters, at the following premiums:

Outside Diameter	Premium Per Pound	Outside Diameter	Premium Per Pound
5"	.09	7-1/2"	.02
5-1/2"	.06	8"	.01
6"	.04	8-1/2"	.01
6-1/2"	.03	9"	.01
7"	.02		

See Section Y of Price and Information Book for approximate lengths and weights of rolls with varying outside diameters on the 3" standard core.

TOLERANCE IN FILLING SLIT ROLL ORDERS

Over 1,000 lbs.	± 5% with a ± 200 lb. maximum
500 lbs. thru 1,000 lbs.	+ 20%, - 5% with a ± 50 lb. maximum

We will always attempt to fill orders within plus tolerance, so that the customer will receive the quantity ordered. Orders will be filled with full rolls of standard O.D. as permitted by above tolerances. Exception: Customers' Specifications and Sample Orders. (See Below)

If a customer desires an exact poundage which would require shipping one roll less than a full roll, a premium shall apply to the part roll commensurate with its outside diameter.

Example: Assume a customer places an order for 710 pounds of slit rolls 25" wide and requests that we ship exactly 710 pounds. To fill the order, we will produce nine full rolls (9-1/2" O.D.) and one part roll weighing 35 pounds (approx. 7" O.D.). A premium of $.02 per pound will apply to the 35-pound roll (as per table above).

SAMPLE ROLLS
When Ordered by Number of Rolls

Width of Roll	Maximum Outside Diameter
Less than 4"	8-1/4"
4" and Over	5"

If the order specifies a definite number of rolls and does not specify O.D., that number of rolls of the above O.D. will be shipped.

Defendant's Exhibit No. 373

WEIGHT AND LENGTH OF ROLLS

		Moistureproof						Plain				
		300	300	300	450	450	600	300	300	450	600	600
Sq. In. Area Factor		21,000	19,500	18,700	14,000	13,600	11,600	23,400	21,500	15,000	12,400	11,500
Roll O.D. on 3" Core	Lbs. Per Inch Of Width	Yards Per Roll						Yards Per Roll				
4"	.1209	71	65	63	47	46	39	79	72	50	42	39
5"	.4734	276	256	246	184	179	153	308	283	197	163	151
6"	.905	528	490	470	352	342	292	588	540	377	312	289
7"	1.414	825	766	734	550	534	456	919	844	589	487	452
8"	2.00	1,167	1,083	1,039	778	756	644	1,300	1,194	833	689	639
9"	2.67	1,557	1,446	1,387	1,038	1,009	860	1,735	1,595	1,112	920	853
9-1/2"	3.00	1,750	1,625	1,558	1,167	1,133	967	1,950	1,792	1,250	1,033	958
10"	3.41	1,989	1,847	1,771	1,326	1,288	1,099	2,216	2,037	1,421	1,175	1,089
11"	4.24	2,473	2,297	2,202	1,649	1,602	1,366	2,756	2,532	1,767	1,460	1,354
12"	5.14	2,998	2,784	2,670	1,999	1,942	1,656	3,341	3,070	2,142	1,770	1,642
13"	6.11	3,564	3,310	3,174	2,376	2,308	1,969	3,972	3,649	2,546	2,105	1,952

NOTE: These figures are approximately correct.

M1400

Y-2

8/1/47

Defendant's Exhibit No. 374

EXTRACT FROM DECEMBER 1947
MONTHLY REPORT OF RAYON
DEPARTMENT TO EXECUTIVE COMMITTEE
JANUARY 26, 1948

The American Viscose Corporation recently announced a further increase of 5 cents per pound in the price of moistureproof cellophane but leaving the price of plain cellophane unchanged. At about the same time, American Viscose announced a reduction in their discount to converters from 7½% to 5%. On the basis of the increased price and reduced discount, our price on moistureproof cellophane to converters is about 6 cents per pound lower. In 1947 moistureproof varieties of cellophane accounted for 112,000,000 pounds or 85% of our sales. Our shipments to convertors totaled 44,000,000 pounds or approximately 33% of our total output.

Cellophane sales for 1947 totaled 132,000,000 pounds, an increase of about 25,600,000 pounds or 24% over 1946. We continue to allocate cellophane to insure equitable distribution. Our pattern of distribution for 1947 on a poundage basis was almost identical with 1946 except for sales to commercial agents and exports who received percentagewise a smaller share.

We expect to be short of supplying the demand for some time to come although our No. 1 Forecast for 1948 visualizes total sales of 168,000,000 pounds, a prospective increase of 36,000,000 pounds or 27% over actual sales for 1947, as the result of authorized expansions at present plant locations. M1403

Defendant's Exhibit No. 375

GENERAL BULLETIN

NO. 60

June 22, 1948

PRICE INCREASE EFFECTIVE AUGUST 1ST

,21

Attached is letter being mailed tomorrow to every active Cellophane customer, enclosing new price list. August business will be booked at these new prices. Converter discount has been decreased from 7-1/2% to 5%, effective same date.

This price increase is considerably less than the increased cost of our materials and labor since our last price increase.

Below, for your information, is a comparison of Cellophane price increases through August 1, 1948, with the increases since 1941 up to this time in general price indices (as published by the U. S. Bureau of Labor Statistics) and in our own materials and labor costs:

	% Increase Since 1941
Wholesale prices, all commodities	88%
Wholesale prices excluding farm products and food	68%
All raw materials	117%
Materials used in manufacture of Cellophane	80%
Average wages Cellophane plants	69%
Cellophane - average increase in published price schedules	13.5%

In addition, since November 1, 1941, there has been an increase in gauges of 8% on about half our production (thus averaging about 4% on total production) and reductions in discounts resulting in an increase in our average net price on total production amounting to about 4%.

The price advances on Cellophane are, of course, still substantially less than those of its principal competitive products - waxed paper, glassine and boxboard. We are attaching revision of Bulletin No. 5, January 12, 1948, showing such increases. It is important to remember, therefore, that the cost differential between Cellophane and wrapping papers is still considerably smaller than pre-war.

CQ SUP 9 M763

GENERAL BULLETIN

NO. 60

The August 1st price increase is small, indeed, when applied to the unit cost of wrapping. A good example is bread: the actual increase in Cellophane cost is only 4.9¢ per 100 loaves. To bring you up to date, we are attaching revise of Bulletin No. 54, August 28, 1947, giving comparative costs of wrapping bread.

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This price increase makes it doubly important that you figure comparative wrapping costs with your customers for new items on which you are working - to point out the small increase in unit cost of Cellophane packaging as compared with competing materials - and, when necessary, to prove the small increase in Cellophane cost on a unit basis due to this price advance.

Comparative price table is attached. Note that 300 MT is now 1¢ per pound less than MST and that 300 MT and MST seconds sell at a uniform price of MT sheets - $.027 less 15%. There are no changes in gauge.

We are confident our sales organization is entirely capable of handling this price increase in such a way that it will not affect the attainment of our forecast by the end of this year.

C. F. Brown,
DIRECTOR OF SALES.

pd

Attachments:
1. Announcement letter to trade.
2. 25 price lists.
3. Comparative price table.
4. Packaging Material Price Sheet.
5. Bread Wrap Cost Sheet.

M783

CQ-SUP-9

E. I. DU PONT DE NEMOURS & COMPANY (INC.) CELLOPHANE DIVISION

Defendant's Exhibit No. 376

E. I. DU PONT DE NEMOURS & COMPANY (INC.)

Manufacturers of

CELLOPHANE DIVISION — DU PONT Cellophane — WILMINGTON 98, DELAWARE

June 23, 1948

143

PRICE CHANGES ON DU PONT CELLOPHANE
EFFECTIVE AUGUST 1ST, 1948

Attached is a new schedule of prices on Du Pont Cellophane, effective August 1st, 1948. Orders accepted for shipment prior to that date will be billed at present prices.

These price increases have been made necessary due to increases in every element of cost in the manufacture of Cellophane since the first of the year.

We greatly value our relationship with your company as source of supply for transparent film and are anxious to serve you in any way we can to make the use of Cellophane as productive and profitable to you as possible.

Very truly yours,

C. F. Brown
DIRECTOR OF SALES.

CFB:CP
Attachment

DU PONT

BETTER THINGS for BETTER LIVING THROUGH CHEMISTRY

M764

CG-SUP-10

Defendant's Exhibit No. 377

6/22/48

CELLOPHANE PRICES

	Rolls			Sheets		
	Present	Effective Aug.1,1948	Comp.	Present	Aug.1,1948	Comp.
300 MT	$ .44	$ .47	$ .48	$ .025	$ .027	$ .027
300 MST-51	.44	.48	.49	.025	.028*	.028
300 MST-52, 53, 54	.44	.48	.49	.027	.030*	.030
300 MST-56, 57	.49	.52		.031	.033	
300 LST	.44	.48	.49	.027	.030*	.030
300 MSC	.57	.60	.63	.035	.037	.039
300 MAT	.50	.52		.029	.030	
300 MSAT-80, 86, 87	.54	.56	.59	.033	.034	.036
300 MSAT-82, 83	.54	.59	.59	.033	.036	.036
300 MSAT-84	.59	.64		.038	.041	
300 LAT, LSAT	.54	.56		.033	.034	
450 MST (Ex. 56, 57)	.45	.48	.50	.039	.041	.043
450 MST-56, 57	.50	.52		.045	.046	
450 MSAT-80, 86, 87	.55	.56	.60	.047	.048	.051
450 MSAT-82, 83	.55	.59	.60	.047	.050	.051
450 MSAT-84	.60	.64		.053	.056	
600 MST	.50	.52	.54	.052	.053	.056
300 PT	.42	.45	.43	.024	.026	.025
300 PC	.54	.57	.54	.030	.032	.030
300 PRC Tango, Black	.62	.63	.60	.035	.035	.034
450 PT	.43	.45	.44	.035	.036	.036
600 PT	.48	.50	.48	.047	.048	.047

*Seconds price $ .027 less 15%.

NOTE: No changes in gauge.

CQ-SUP13

M767

M 767

Defendant's Exhibit No. 378

PRICES OF PACKAGING MATERIALS

The following table gives a picture of the price increases of other principal packaging materials, compared with pre-war figures:

Material	Pre-War	June 1948	Per Cent Increase
Bleached Sulphite (For Waxing)	$ 6.00 Cwt.*	$12.65 Cwt.	110.8%
Wax Paper Bread Wraps. (37-Lb. Printed 3 colors)	12.33 Cwt.**	20.00 Cwt.	62.2%
Bleached Glassine (25-Lb.)	11.00 Cwt.*	17.75 Cwt.	61.3%
Glassine Candy Bar Wraps (Printed 3 colors)	36.50 Cwt.**	46.00 Cwt.	26.0%
Boxboard (.020 up)	70.00 Ton*	105.00 Ton	50.0%

*1939 Price

**1941 Price

CQ- SuP 11

M 765

Defendant's Exhibit No. 379

6/22/48

,25

COMPARISON - BREAD WRAPPER COSTS
(As of August 1, 1948)

	Cost Per 100 Loaves
1. CELLOPHANE - AD-SEAL-IT WRAP	
Du Pont Cellophane (300 MST-51) (16-1/2" x 16-1/2" sheet)	$ .619
Ad-Seal-It Band (2 color - 2-1/2" wide) (@ $2.19 per roll of 3,000 feet)	.105
Total Cost of Wrap	$ .724
2. WAX WRAP	
Waxed Paper (3 color - printed 37-lb.) $20.00 a cwt. (16-1/2" x 16-1/2" sheet)	.486
Difference between Cellophane and Wax Wraps	$ .238
Difference in materials cost per loaf	$ .0024

M766

CQ-SUP 12

#26

Defendant's Exhibit No. 380

R-12070

CC: R. A. Dunn.
P. W. Tranfield.
~~W. J. Hobbs~~ - Wilmington.
General Sales Office File.

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
EMPIRE STATE BUILDING
NEW YORK 1, N. Y.

RAYON DEPARTMENT
CELLOPHANE DIVISION

April 1, 1949.

Mr. Farrar Tilney, Vice President,
General Baking Company,
420 Lexington Avenue,
New York 17, N. Y.

Dear Mr. Tilney:

Mr. Dunn has discussed with me your letter of March 30th about the possibility of a reduction in the price of Cellophane.

At the present time, we see no possibility of a reduction in Cellophane prices in the foreseeable future. When our prices were increased last year, the schedule was based on a forecast of substantially lower price of glycerine, which has only now taken place. Other manufacturing and material costs have not decreased since then and, on the contrary, prices of several essential materials have increased.

It is not the plan to reinstate the quantity discount.

Because of your long relationship with our Company, I know that you are aware of the fact that it has been our philosophy to reduce the price of Cellophane whenever production, efficiencies and economies have made this possible. You can be sure that this same policy will be continued in the future.

Thank you for writing us on this matter and let me take this opportunity to again let you know how much we appreciate your valued business.

Very truly yours,

H. C. Broems,
New York District Manager.

HCB

(OVER)

Defendant's Exhibit No. 381

C
O
P
Y

GENERAL BAKING COMPANY
420 Lexington Avenue
New York 17, N. Y.

March 30, 1949.

148.

Mr. R. A. Dunn,
E. I. du Pont de Nemours & Co.,
350 Fifth Avenue,
New York 1, N Y

Dear Mr. Dunn:

I am reliably advised by your co-manufacturer that there has been substantial reductions in several of the materials that go to make up Cellophane. Therefore I have the temerity to suggest that a reduction from your 48¢ lb. level is now decidedly in order, and I am hopeful that in the very near future you will have good news for me in respect to this matter.

Up to several years ago you extended a quantity discount to us. In view of the large volume of business we have to offer I believe that consideration should be given to a revival of this quantity discount matter.

Very truly yours

farrar tilney
Vice President

M 464 A

ft:ea

Defendant's Exhibit No. 382

CC: R. R. SMITH

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

CELLOPHANE DIVISION

AK

We will continue to watch sales of 600.

Wilmington, Delaware,
June 15th, 1949.

MR. J. B. DEAN,
ASSISTANT DIVISION MANAGER.

600 PT PRICE

You will recall that we have discussed the difference of 12¢ per pound between Sylvania's price for 600 PT and our current price. We wondered whether or not this 25% difference in price was affecting our business.

We have had a listing prepared of the customers who purchased 600 PT in the first quarter and the uses for which they purchased the material. In the first place, it will be noted that, whereas we sold 779,000 pounds in the year 1948, our rate in the first quarter of 199,700 pounds does not indicate any lessening in demand. It is possible that we have a quality advantage on 600 PT inasmuch as it will be noted that over half of our sales in the first quarter was for use as separator sheets in the low-pressure molding operation. Any tendency on the part of the sheets to be mottled or streaked would make them unsatisfactory for this use.

From all that can be determined at the present time, our product is apparently worth 12¢ per pound more than Sylvania's. Our present price does not yield any exorbitant return and we, therefore, feel that we are justified in continuing with our present price.

C. A. HALEY,
MANAGER, PLANNING SECTION.

CAH:CP

M 405

BETTER THINGS for BETTER LIVING . . . THROUGH CHEMISTRY

Defendant's Exhibit No. 38

EXTRACT FROM MONTHLY

SALES REPORT FOR AUGUST 1949

SEPTEMBER 12, 1949

August shipments were 14,077,000 pounds, 277,000 pounds above the forecast. August order receipts were 14,700,000 pounds, which is a 1,150,000 pound increase over July.

The reports continue encouraging in respect to a fall pick-up in our business. Inventories are down closer to normal and purchasing is more in line with actual use levels. In addition, there are some plans calling for expanded use of Cellophane this fall, particularly in such major industries as bread and cake, and crackers and biscuits.

Noteworthy in August was the decided improvement in sales to converters, indicating that this much improved position reflects current converting levels. Actually, the converter increase (August over July) was substantially higher than our total net gain. Direct sales fell below July by almost 700,000 pounds. We expect, however, to regain and possibly exceed the direct booking rate in September.

There is, in the main, a much healthier condition prevailing in our business.

Terms of Sale

To equalize our competitive position, our terms of sale were changed, effective August 10th, 1949, to include a 1% discount for payment 10 days from invoice date. The change was very favorably received in the trade, particularly among the large users where the competitor's former advantage presented attractive savings.

Six Months' Outlook

Our forecasted fourth quarter sales are approximately 6% above the third quarter this year. However, the first quarter 1950 indications are 4% below the fourth quarter this year which is an estimated seasonal drop-off.

M1406

Defendant's Exhibit No. 384

E. I. DU PONT DE NEMOURS & COMPANY (INC.)

Manufacturers of Cellophane, Acetate and Polythene Films

FILM DEPARTMENT DU PONT Cellophane *WILMINGTON, DELAWARE*

August 25, 1950

Attached is a copy of the letter being mailed today to all of our customers, announcing new prices of Du Pont Cellophane. Also enclosed is a copy of our new price list.

In addition to the price changes, the converter discount is being increased to 7%. This discount will apply on all orders billed at the new prices.

Should you be interested in any type of Du Pont Cellophane not shown on the price list, please let us know and new prices will be sent to you.

Cordially yours,

E. O. Lake, Manager
INDIRECT CELLOPHANE SALES.

EAW:CP
Attachments

DU PONT

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

Defendant's Exhibit No. 385

E. I. DU PONT DE NEMOURS & COMPANY (INC.)

Manufacturers of Cellophane, Acetate and Polythene Films

FILM DEPARTMENT — DU PONT Cellophane — WILMINGTON, DELAWARE

August 25, 1950

TO OUR CUSTOMERS:

PRICE CHANGES ON DU PONT CELLOPHANE
EFFECTIVE OCTOBER 1ST, 1950

Attached is a new schedule of prices for Du Pont Cellophane, effective October 1st, 1950. All orders accepted for shipment prior to that date will be billed at present prices.

We regret very much the necessity for raising our prices, but during the past several months, all major items entering into the manufacture of Cellophane have increased in cost to the point where this action has become necessary.

Your valued business is very much appreciated and we will continue to seek every opportunity to be of service to you in your use of our product.

Very truly yours,

C. F. Brown
DIRECTOR CELLOPHANE SALES

CFB:gp
Attachment

DU PONT

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

Defendant's Exhibit No. 386

DEFENDANT EXHIBIT NO.

DU PONT CELLOPHANE PRODUCTION STATISTICS

	% Finishing Waste	% Seconds	Avg. Lbs. Cast Per C.M. Day	Avg. Film Width in Inches	Avg. C.M. Speed in Meters/Min.	Avg. Lbs. Coated Per Tower Day
1924	15.7	N.A.	N.A.	N.A.	N.A.	-
1925	14.1	N.A.	N.A.	N.A.	N.A.	-
1926	12.1	N.A.	N.A.	N.A.	N.A.	
1927	16.7	N.A.	N.A.	N.A.	N.A.	N.A.
1928	16.4	N.A.	N.A.	N.A.	N.A.	N.A.
1929	16.5	4.8	N.A.	N.A.	N.A.	N.A.
1930	15.7	6.8	N.A.	N.A.	N.A.	N.A.
1931	15.8	7.7	3,292	N.A.	N.A.	3,956
1932	15.3	10.9	3,307	44.3	30.3	3,977
1933	11.6	12.1	3,761	44.1	35.5	4,529
1934	8.8	7.3	4,401	43.8	40.3	5,244
1935	8.3	7.6	4,725	44.5	42.0	5,361
1936	8.3	6.5	4,978	44.7	44.4	5,944
1937	7.6	6.7	5,171	44.3	47.1	6,735
1938	6.0	5.1	5,154	45.3	46.6	7,817
1939	5.1	4.7	5,420	45.4	48.1	8,028
1940	3.9	3.9	5,574	45.9	49.0	8,191
1941	4.6	3.9	5,772	46.3	51.2	8,861
1942	3.8	4.0	5,533	46.5	52.1	8,095
1943	4.1	3.9	5,619	46.3	52.0	8,186
1944	4.0	4.0	5,698	46.0	49.4	8,107
1945	3.7	3.3	5,843	46.1	51.6	8,496
1946	4.1	3.5	6,586	46.4	61.8	9,464
1947	4.4	4.1	7,094	46.7	65.0	10,437
1948	5.3	4.1	8,163	47.7	72.4	12,047
1949	5.1	3.8	9,152	47.6	79.4	13,618
1950	4.2	4.5	9,963	47.8	83.9	15,371

N.A. - Not Available

Source: Records of Film Control Division,
E. I. du Pont de Nemours & Co.

DU PONT CELLOPHANE

Defendant's Exhibit No. 387

TECHNICAL ACTIVITIES EXPENSE

1924	$ 9,139
1925	17,951
1926	14,097
1927	13,253
1928	94,610
1929	189,113
1930	266,725
1931	471,374
1932	552,639
1933	618,103
1934	667,671
1935	710,661
1936	726,877
1937	947,977
1938	714,631
1939	793,195
1940	808,160
1941	953,935
1942	1,103,109
1943	1,060,934
1944	1,131,790
1945	1,283,964
1946	1,779,055
1947	2,103,576
1948	2,256,313
1949	2,289,507
1950	2,782,706
TOTAL 1924 - 1950 Inclusive	$ 24,361,065

Source: Records of Film Control Division,
E. I. du Pont de Nemours & Co.

Defendant's Exhibit No. 388

[COPY OF ~~UNPUBLISHED~~ MATERIAL]

DEFENDANT'S EXHIBIT NO. 2004 A

#51

DU PONT
CELLOPHANE

DU PONT CELLOPHANE COMPANY, INC.,

BUFFALO N. Y.

Whittaker
See my reply
B

E B
H W

July 10th, 1924

Dr. E. B. Benger,
CHEMICAL DIREC. OR.

Our file 1107 VCC

For your information and consideration we are quoting a part of our New York Office letter of July 2nd.

NATIONAL BISCUIT CO.

"I had a further conversation today with Mr. Hoyt relative to the use of cellophane by this firm. Their principle objection to cellophane is the fact that it is not moisture proof. They have a moisture test machine which shows that moisture will penetrate cellophane in about one hour whereas they have some wrapping materials which moisture will not penetrate under 50 hours. I told Mr. Hoyt that I would request our chemical department to conduct some extensive experiments in an effort to produce cellophane that will meet with their requirements as to a moisture proof wrapping material. He also agreed to have their laboratory conduct some further experiments. They are willing to work with us but as the matter stands now, we cannot talk business with them. They are practically sold on the idea of cellophane as a wrapper because of its transparency, etc., but before they can consider using the material it must meet their practical requirements."

/s/ O. F. Benz
c
SALES MANAGER

VCC*B

M2076
Ref 2

Defendant's Exhibit No. 3894

[COPY. OF ILLEGIBLE TEXTUAL MATERIAL]

DEFENDANT'S EXHIBIT NO. 2005 A

July 11, 1924.

Mr. O. F. Benz,
Sales Manager.

Attention: Mr. V. C. Clark.

Subject: National Biscuit Company - Your letter July 10th.

The permeation of Cellophane by moisture is a characteristic which at the present time we have to admit.

The change in the composition of Cellophane which will result in the water-proofness required by the National Biscuit Company, that is, an increase to 50 times its present resistance to permeation by water vapor, is a thing which will probably require years to accomplish.

We will be glad to know the results of their experimental work and especially to learn how they test wrapping materials; but I think it would not be wise to push Cellophane with them if, as they point out, Cellophane is only 1/50 as good with regard to retention of moisture as wrapping materials which they now have.

/s/ B

E. B. BENGER

CHEMICAL DIRECTOR.

EBB:AMC

CC: Mr. Lee.

M 2077

Ref. 3

Defendant's Exhibit No. 390A

(COPY OF ILLEGIBLE TEXTUAL MATERIAL)

Harold G. Butler, President Albert L. Hall, Secretary & Treasurer

BUTLER CANDY CO.

CANDIES of PURITY & QUALITY

Reply to H W Benz

WAUKEGAN, ILL., September 5, 1924 E B

Dupont Cellophane Co.,
Baltimore, Maryland.

Gentlemen:

We are experiencing some difficulty with your cellophane paper sticking to our hard candy sucker, which we are making, and we are wondering if this paper is made so that there is anything in the composition which would cause a sweaty and naturally a sticky substance on the outside of the hard candy, and, therefore, would cause the paper to stick to the candy. We are mailing to you under separate cover a sample of a few pieces and would thank you at once to have your chemist, if possible, analize this and our candy to, if you wish, and inform us as to whether there is any ingredients in the paper which is causing this. We are preparing to make and sell thousands of boxes of this product and therefore would like to have an expression from you as to what you think causes this condition.

Kindly get this to us as quickly as possible.

Yours very truly,
BUTLER CANDY COMPANY,

Per (signed): Harold G. Butler
M.
Manager

HGB:MVH

RADIANT MORSELS
1 & 3 LB. CANS

CANDIES that SATISFY

Defendant's Exhibit No. 391

(COPY OF ILLEGIBLE TEXTUAL MATERIAL)

CC: Messrs. Lee
Cullen

October 17 1924

Mr. O. F. Benz,
Sales Manager.

Subject: Sticking of Cellophane to Lollypops.

With further reference to the complaint of the Butler Candy Company, Waukegan, Illinois, the samples which we have received indicate that sticking was caused by penetration of moisture thru the Cellophane to the hard candy surface. This is something which we believe will occur when almost any of the glucose candies are wrapped in our material since this type of candy is rather hygroscopic.

The preventive measures which might be taken by customers using our material for wrapping might be the exposure of a sample of their lollypops to the vacuum oven or by coating them with powdered sugar or perhaps very lightly with starch or dextrin. Treatment in the vacuum oven would delay sticking for only a relatively short time and the writer believes that the coating with the above mentioned materials is preferable. Would it not be possible to suggest this to one of your customers for test so that we may be prepared to make definite recommendations with new prospects.

Unless we hear from you to the contrary, we will consider the Butler Candy Company complaint closed as far as tests are concerned since the cause of sticking is obvious.

Ernest B. Benger,

CHEMICAL DIRECTOR.

BY: (signed): H.F.W.

Defendant's Exhibit No. 392

DU PONT CELLOPHANE COMPANY, INC.,
BUFFALO, N. Y.

May 21, 1924.

Mr. M. D. Loe,
Production Manager.

Mr. de Viginier, in a letter of May 19th, discloses that he, in his investigations to date on the useability of cellophane, has encountered what the French have found to be its main criticism, viz., its shrinking and expanding under different conditions of humidity and temperature.

The trade does not understand how to handle cellophane and some missionary work will be necessary to cause the customer to be satisfied. We can turn out a perfect cellophane here as far as the development of this product at present goes, yet our customer, not knowing its nature, might place it in a damp room and cause it to cement together, or in a show-case that is subject to a varying temperature, and where the cellophane wrapping might burst from the article.

You recently asked us to give you a list of items that we would be interested in having Dr. Benger investigate promptly. From an operating standpoint, the control of our baths (1) and the elimination of air pockets in our feed lines is a large and very important problem. Considering cellophane manufacture and disposal, and not just the manufacturer, we believe the investigation of a filler that will make cellophane moisture-proof and moisture-resisting (2) is a study of the very first importance. The French have done some work on this last and have found that by applying varnish to the heavier grades of cellophane, it becomes water-resistant and, if not handled roughly or bent, the varnish lasts indefinitely.

A third study that Dr. Benger is handling for us now is the critical point of glycerine, temperature, and humidity at which cellophane sticks. (4)

The develo[illegible] of the best speeds of machine, [illegible]opening index, strength of [illegible]ons, etc. for different qualities of cellophane.will require constant investigation. A lot of this we will be forced to handle through the strictly operating side, but the results of our investigation will be listed and turned over to Dr. Benger for his permanent record. There are a number of small things that we will be only too glad to ask Dr. Benger's assistance on, but we have mentioned some of the big studies that, when solved, will unquestionably give us a cellophane that will be

M2079 Per. 6

DU PONT CELLOPHANE COMPANY, INC.,
BUFFALO, N. Y.

very far superior to that which is being produced at this time.

R. E. CULLEN,
Superintendent.

REC:C

M2079

CC: Mr. De Viginier,
Sales Department.

Ref. 6

Defendant's Exhibit No. 393

[illegible] to
Mr. [illegible]
Mr. [illegible]
Mr. Whittaker

September 25 1924

Mr. M. du Pont Lee,
Production Manager.

Subject: Waterproof Cellophane.

Reference: Your Letter of September 24 1924.

This subject is one on which I have personally spent considerable thought and have attempted to gain the opinion of various other interested people.

It seems to me that the importance of the problem is so great that we would be remiss in our consideration of the future if we did not give careful thought to the advisability of undertaking this study. It has not seemed important to rush into it, especially in view of the number of new men who have been started in our work and the press of problems which were of more immediate interest. Most of the Cellophane problems are still unsolved but we have smoothed out the operation of the Cellophane Division sufficiently so that it would not be at all impossible to start work on this problem soon if it seems advisable.

I would like first to mention some of the lines of attack which have suggested themselves. The order of presentation has no significance.

1. The common conception of this problem is that of a glycerin substitute. This involves finding a chemical compound or a combination of compounds which could be incorporated in the Cellophane very much as the glycerin is now added. Of course, it would not be put in by water solution because the materials would have to be insoluble in water. A patent by Reid (U.S.P. 1,116,627 issued November 10 1914), assigned to the Eastman Kodak Company, contains the following claims:

   (1) In a transparent pellicle of reverted cellulose insoluble in the ordinary solvents of converted cellulose and having incorporated in the substance thereof a filler which is non-oleaginous, insoluble in water but is soluble in solvents miscible with

M2026

water.

(2) A transparent body comprising reverted cellulose having incorporated therein a filling material which is non-oleaginous, practically insoluble in water, but which is soluble in alcohols and other solvents miscible with water.

(4) A transparent pellicle for use in photography consisting of reverted cellulose containing a filling material having the following characteristics (1) practically insoluble in water (2) soluble in alcohols and other solvents miscible with water (3) having no appreciable effect upon photographic emulsion (4) practically colorless (5) non-oleaginous and (6) incapable of chemically reacting with the chemicals used in photography in such a way as to reduce the transparency of the sheet.

(8) The method of treating pellicles for use in photography consisting in subjecting a water dampened pellicle of reverted cellulose to the action of an alcoholic solution of triphenyl phosphate.

Claim (1) is pretty broad and it is the process described in this claim that I think will be most interesting to us. This opinion, of course, has not been tested in any way. The patent on this subject should not prevent us from making careful studies of the possibility of dissolving in alcohol or other non-aqueous solvent some water-resistant material which would act as a glycerin substitute and learning the possibility of success by this procedure.

Dr. Hamilton Bradshaw, who called my attention to the above patent, confirms my opinion, as does J. F. Smith, that there is a considerable possibility that the incorporation of a water insoluble material in Cellophane is theoretically impossible. There are a number of tricks by which this might be done and I think our theoretical reasoning should not prevent us from making careful tests of the idea.

2. Modern colloid chemistry has shown the possibility of making water emulsions from almost all kinds of materials. These emulsions probably consist of very minute drops of water-insoluble materials dispersed throughout the water. This principle might be employed in introducing

M2026

into our viscose solution water insoluble softeners of cellulose.

3. Softening agents which are insoluble in water might be mechanically worked into Cellophane. This could perhaps be accomplished by using the pure substances or by using emulsions; and the leather industry furnishes examples of mechanics by which such an operation might be carried out. The idea seems rather far fetched at present.

4. Superficial coatings might be applied, the coatings being sufficiently dense and nonporous to at least greatly retard the entrance of water into the cellulose. Mr. Yerkes recently mentioned the possibility of using cellulose acetate for this purpose, selecting this material because of its low inflammability and resistance to water. It seemed to me that there would be considerable difficulty in applying such a layer so that it would adhere well. I made a bad guess on this because we have samples of French Cellophane with superficial coatings of nitro-cellulose on both sides of the Cellophane which adhere fairly well - well enough for ordinary purposes certainly. The inflammability of the Cellophane thus made is not very high, in fact, it seems that the difference between it and the ordinary product would hardly be detected by the ordinary observer.

Nitro-cellulose, cellulose acetate, cellulose ethers and a great variety of substances which are not derived from cellulose should be tried in this connection.

5. The French have succeeded in considerably increasing the water-resistance of Cellophane by the autoclave treatment used in making motion picture films. They have also obtained results of interest thru the action of formaldehyde (sthenothage). The efficacy of these methods should be determined.

6. A suggestion which would interest any chemist working on this line consists in incorporating in the Cellophane a water soluble material and rendering this insoluble by subsequent treatments. Cohoe in patent (U.S.P. 1,158,400) now owned by this company gives an excellent illustration of this as follows:

"There may be incorporated with the viscose solution....

M 2026

potassium stearate. The mixture is then extruded and the coagulated casing received in a bath of salt solution.....in which neither the viscose nor the potassium stearate is soluble.....The tubular casing after emerging from the bath of salt solution.....is treated with a weak acid.....which will unit with the basic radical of the soap, leaving behind the fatty acid in intimate contact with the cellulose hydrate."

The fatty acid would be the waterproof material in this case.

It is to be expected that a great many more ideas would come to any man assigned to this problem - the above simply represent those which have occurred to us or have been brought to our attention by the literature.

You ask how extensive an investigation of this kind might be and what it would mean to the Chemical Department organization. The second part of the question can be disposed of by a statement that it is my opinion that this problem can only be handled in a satisfactory way by the employment of a man who is carefully selected for the work and who is assigned to no other problem. If the problem is worthy of attacking at this time, it should receive the constant attention of one man. The extent of the investigation cannot, of course, be predicted. I would not favor starting it, however, unless we were prepared to spend $5000 or $10,000 without stopping. Possibly after having given the amount of attention represented by this expenditure, we would be in a position to decide whether the problem should be continued. We would certainly know whether we had selected a good man and the degree of promise and the results obtained would furnish a good basis to decide upon further consideration of the problem.

I may be permitted to quote the progress of a somewhat analogous problem in the Fabrikoid industry. Seven years ago we put Mr. Schwartz on the study of substitutes for castor oil. For six years he probably put 50% of his time on this study, his whole time being devoted to it for long periods at a stretch. At the end of this period the Fabrikoid Division made its first commercial application of the principles evolved thru Mr. Schwartz's study. The factory study of these principles is not yet complete and the commercial application which has already been made is of apparently small importance and probably

M 2026

would take five or ten years to pay for the cost of investigational work which led up to its capitalization. One of the unexpected and very important results of his work was the accumulation of a very much more definite idea of the structure and properties of fabrikoid film. I believe that the importance of the ideas which were evolved thru his work have up to the present time been of more importance than the result of the study on which he was directly engaged. Perhaps such a result could be anticipated from a study of waterproof softeners for Cellophane.

In general it is my opinion that we should undertake this study soon, provided the following ideas are agreed upon:

(1) The problem is a long one which will probably involve the expenditure of several thousands of dollars before any indication can be obtained as to the possibility of final success.

(2) The qualifications of a good man for this work are peculiar and it might take a long, careful search to find a man suitable for carrying on the study.

(3) Waterproofing is a matter of degree and I would not hold out any hope of producing from viscose a product which would be absolutely waterproof. The water-resistance of Cellophane is probably capable of being tremendously increased but to secure absolute resistance to water should be thought of as an extremely remote possibility.

(4) The cost of waterproof Cellophane would be almost unquestionably higher than the present product.

E. B. Benger,

EBB:AMC

CHEMICAL DIRECTOR.

M2026

Defendant's Exhibit No. 394

DU PONT CELLOPHANE COMPANY, INC.,
BUFFALO, N. Y.

October 1, 1924.

Dr. E. B. Benger
CHEMICAL DIRECTOR.

Referring to your letter of September 25th with regard to water-proofing cellophane, Mr. Yerkes is entirely in agreement with the suggestion of employing a suitable man to make this study his prime object.

I feel that we are warranted, if necessary, in spending on this development the figure which you mentioned in your letter.

Please take the necessary steps to start this work as soon as possible.

MduPL:HS

PRODUCTION MANAGER

M 2027

CC: Mr. Cullen

Defendant's Exhibit No. 395

cc: [illegible] J. W. Hatt

June 4, 1928

Mr. J. E. Brandenberger
Societe la Cellophane
Bezons, S. & O.,
FRANCE

My dear Mr. Brandenberger:

Moistureproof Cellophane is going along very satisfactorily in America. I suppose you know that a second coating machine has been approved by the Board of Directors and design and construction work on this is already started. We feel that this material is so good that its use will undoubtedly extend and eventually will appear in a great many fields where Cellophane has never been successful before.

Our production at the present time, as you may know, amounts to about 2200 lbs. per day and the prospects for increases in demand are very good. This success of moistureproof seems to be stimulating some of our competitors and Birn and Wachenheim, the American importers of Fenestra, have been particularly anxious to market a competitive product. One of the members of the firm has made advances to a certain man who was employed by us during the development of moistureproof Cellophane and who left us to go with another company manufacturing an entirely different line of products. The American importers, Birn and Wachenheim, are reputed to have offered large sums of money as a bonus and a good salary to this man if he would go to Belgium and show the Fenestra people how to make moistureproof product similar to our own.

This man is under contract and he cannot, ethically at least, accept such a proposition. Moreover, I think we might be able to hold him legally if it came to a test, but I think this will not be necessary. In selecting employees, we always have in mind the possibility of losing a man who has acquired confidential information, and, therefore, these men are selected with a view to their honesty and personal integrity as well as with

M2029

respect to their ability as research chemists.

The information which we have is that the Fenestra people are trying very hard to make a product like our moistureproof and that they have been unsuccessful. It is apparent that they appreciate fully the advantages of moistureproof Cellophane and are extremely anxious to be able to make something to compete with it. The Belgium patent to Church and Prindle, covering this material, has been granted, and I think there will be no trouble about preventing Birn and Wachenheim from using our process even if they should learn how to do it successfully.

It seems to me that this information is very important for you individually, and that it may encourage you toward marketing a moistureproof product in France.

During the last few months a number of improvements have been made in moistureproof Cellophane. It is now distinctly better than the very best waxed paper which we have ever seen. The permeabilities are averaging about twice as good as the best waxed paper, although some of the samples are in the same range and occasionally even lower. The process continues to be rather expensive, costing us about 30¢ per pound over regular for stock-size sheets, but we are arranging to do some work on recovery of solvents and this will make an appreciable saving. It may be possible to get the cost down to about 20¢. There are also a few other small items where the expense can be reduced, although we do not hope that the cost of moistureproofing will ever be very much lower than it is at present.

Yours very truly

TECHNICAL DEPARTMENT

Ernest B. Benger
ASST. GENERAL MANAGER

EBB:JB

M2029

Defendant's Exhibit No. 396

1297a

COPY TO:
E. K. Gladding, G.M. Technical Dept.
E. B. Benger, A.G.M. Technical Dept.

New York City
May 7th, 1930.

TO: J. E. Hatt, G.M. Cellophane Dept.

IMPROVEMENT IN QUALITY OF CELLOPHANE:

Executive Committee

May 7th 1930.

Referring to discussion with Mr. Gladding of the Technical Department's April Report from Dr. Benger, dated May 1st (#800),

It is the Committee's suggestion that various experiments in connection with manufacture of Cellophane, looking toward a better product, be not abandoned, but that they be prosecuted even though there may be some slight additional expense involved, it being felt that anything tending to improve the quality of the Cellophane, except at an extraordinary increase in manufacturing expense, would be an advance. The Committee have in mind particularly (1) filtration of viscose, (2) use of cotton linters, and (3) use of zinc bath, and have the feeling that experimental work on all of these items has been abandoned due to possible increase in manufacturing cost, and believe this viewpoint is wrong. The Committee do not seem to insist at this time that production be curtailed by reason of experimental work along the above mentioned lines, but do feel that they should be prosecuted at the earliest possible moment, and that the basic idea of improved quality should perhaps be more forcibly kept in mind rather than the slight increase in manufacturing cost that might result by adoption of these improvements.

F. W. Hess, Secretary
EXECUTIVE COMMITTEE

1-K

M-153

DU PONT CELLOPHANE

DU PONT CELLOPHANE COMPANY, INC.

5 PARK AVENUE
NEW YORK CITY

May 14th, 1930.

MR. F. G. HESS
SECRETARY EXECUTIVE COMMITTEE
NEW YORK

ADVICE OF ACTION MAY 7th, 1930
IMPROVEMENT IN QUALITY OF
CELLOPHANE

We are in entire accord with what we presume is the spirit of this Advice of Action that improvements in quality should not be foregone on account of slight additional manufacturing expenses. We have continued to make effort to improve quality along various lines and in the number of items other than those mentioned, and in a number of which we have been successful in actually improving the quality of Cellophane.

During 1929 we experimented with the filtration of viscose for quite sometime. We secured a Sperry filter press that was on order for Richmond and replaced it with another one which we ordered for them. We installed this in the viscose ripening room, and it took quite a lot of experimentation to get our viscose thru the filter cloths at all, in anything like commercial time.

We did, however, succeed in filtering it and processed it for quite a while in an effort to determine what improvement we might make in the quality of Cellophane. One press would not, of course, handle the entire output of the plant at that time in Buffalo, and it would have been necessary to install a number of these filter presses to have accomplished proper results and to meet the operating schedule.

We learned something from this operation and found one of our difficulties was unxanthated pulp. This was corrected by improvements in the chemical building and the last time the press was run we ran coincident with it, similar charges in the same machine, that were not filtered. The information I received was that it was not possible to determine any difference between the two as to quality and in both cases we cleared up a fibrous condition which had been prevalent sometime before. For this reason: namely, lack of actual improvement in quality, we discontinued that operation at that time.

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Recently, it has been pointed out that the location of the press was probably not in the right spot to secure proper results. The Technical Department men in authority are not agreed on this, however, and so far as I know, to this date, a definite difference of opinion exists between Messrs. Gladding, Charch, Hyden, etc., as to this feature.

It has been said that perhaps a filter on the feed lines from the feed tank to the hopper would be the ideal spot for it and Mr. Gladding has pointed out that it would probably require a special type of filter to make continuous flow at this point and to obviate the possibility of air getting into the viscose on account of filtration just before feeding the hopper.

Our own position is that at a convenient time, when production demands will permit, we will renew a trial of the filtration of viscose in an effort to try out these various suggestions in the hope of improving Cellophane quality.

On cotton linters - we were not able to establish a standard practice that would permit of production from machines using it at Old Hickory, and as we needed badly the production of these machines, that operation has been set aside until there is less demand on productive equipment.

We still have ample cotton available there and the Technical Department is understood to be definitely figuring out a standard practice that will permit of its use.

On the zinc bath - this project was recently closed by the Technical Department on account of their inability to apply it satisfactorily to production at this time. A considerable part of the results so far as wider film, improved quality and increased productivity per machine, which it was hoped to get from this zinc bath, have since been secured by the use of high concentration viscose. I understand that further development work would be required to adopt zinc bath for regular production. This subject, likewise, will be re-opened when productive conditions will permit in an effort to make it applicable to the present type of viscose which, of itself, has materially improved quality.

Our whole thought is that anything we can do to improve the quality of Cellophane will be reflected in its wider use and more satisfied customers, and nothing of this na-

M-152

ture will be rejected solely on a basis of cost alone, except with the fullest consideration as to the relation of cost to the benefits to be secured.

Very truly yours,

J. E. HATT
GENERAL MANAGER.

M-162

Defendant's Exhibit No. 398

MAJOR RESEARCH PROJECTS ON MOISTUREPROOF CELLOPHANE

DOCUMENTS RELATING TO RESEARCH PROJECTS ON ANCHORING:

Project No.	Title	Parts
CX-78	Improved anchorage for the Coating of Moistureproof Cellophane	6
CX-208.	Investigation of Methods for Producing M.A.T. Cellophane by a One-Coat Process	7
PX-4	(Continuation of CX-208)	1
CX-101	Improvements to M.A.T. Process	5
C-13-2B	Progress Report - Anchored Films - Single Coat Process	1
3044	Major Experimental Project No. 3044 Basic Study of Mechanization of Anchorage	1
CX-224-CD	Basic Study of Mechanism of Anchorage	2
CX-261-CD	Physical Study of Cellophane Adhesion	6

DOCUMENTS RELATING TO RESEARCH PROJECTS ON MOISTUREPROOFING COMPOSITIONS:

CX-39	Quality of Moistureproof Cellophane	2
CX-77	Assistance to Cellophane Operations - Regular and Moistureproof	2
CX-216 & 9	Systematic Study of Moistureproof Cellophane Lacquers	5
CX-218	Permanence of Moistureproof Cellophane	2
CX-243	M.T. Cellophane Study	2
CX-219	Improvements to M.S.T. Cellophane	3
CX-10	Improvements to M.S.T. "Cellophane"	1
CX-12	M.T. "Cellophane" Study	1
CX-67	Coated "Cellophane" Chemical Studies - 1936	9
CX-124	Studies on New Materials for the Moistureproof "Cellophane" Process	3

Project No.	Title	Parts
CX-212	Coating Compositions Based on New Polymers	5
CX-213	Polyvinyl Butyral Coatings	2

DOCUMENTS RELATING TO RESEARCH PROJECTS ON CASTING:

	Increased Cellophane Plant Capacity	1/14/26
CX-114	New Cellophane Casting Machine	3
CX-186	Assistance to Cellophane Operations, Plain and Moistureproof -- 1932	5
MX-239	High Speed C.M. Tests - O.H.	1
CX-55	Quality Improvements - Casting Machine	13
CX-4	"Cellophane" Casting Machine Studies	12
223-T	Casting #300 film at 41.5 m.p.m.	1
245-T	Casting #300 Gage "Cellophane" at 43 to 45 m.p.m.	1
346-T	Controlled Tension Wet-End Pattern for Casting Machines - 60 - 100 M/M Operation	11/11/41
345-T	60 Meter Wet-End Pattern	11/28/41

DOCUMENTS RELATING TO RESEARCH PROJECTS ON ADHESIVES:

CX-48	Moistureproof Cellophane Adhesives	3
CX-206	Adhesives Studies	1
CX-46	Improvements in the Gluing of Moistureproof "Cellophane"	3

NOTE: A copy of each of the documents listed above was furnished to the Government on June 22, 1950, in accordance with paragraph 3 of the Stipulation signed by the parties on June 15, 1950 and approved by the Court on June 16, 1950.

Defendant's Exhibit No. 399

FORM NO. R 339

Accounting
Mr. Schwarz
Chemical
Dr. Pickens
Engineering
Mr. Hatt
Mr. [illegible]

TECHNICAL DEPARTMENT APPROPRIATION REQUEST

Division Chemical

Estimated Cost $ 1580.00

Title Improved anchorage for the coating of Moistureproof Cellophane

Study Number CX-78

Process Affected Cellophane

Date December 29, 1928

Applicable to Following Plants Cellophane

To be started January

Suggested by J. E. Hatt

To be completed April

Prepared by W. L. Hyden

Est. Monthly Expenditures $ 1580

Jan.	$395
Feb.	395
Mar.	395
April	395

Approved [illegible] 12/29
" [illegible] 12 31
" [illegible] 12/31 [illegible] 12/31
" [illegible]

Estimated Savings $
(Per attached)

Authorized [illegible]
Comptroller Dept.
By [illegible] 1/9/29

DISTRIBUTION

Accounting Division

Please distribute all costs accumulated under this appropriation to:

Cellophane
Department

CX-78

Improved Anchorage for the Coating of Moistureproof Cellophane

REASON SHEET

Give the following information in order:

1. A comprehensive general description of the study describing what is proposed to be done.
2. A statement of reason for wishing to do the work.
3. Statement of benefits expected, if experiment is successful.

I. DESCRIPTION OF THE WORK

As the name implies, Moistureproof Cellophane is highly resistant to the passage of water vapor. However, upon contact with water the coating is loosened and its moistureproofness is destroyed. If the coating were strongly anchored to the film a product adaptable to more uses would result.

It is generally felt by the Sales Department that improvements of this nature would be heartily welcomed by customers and experience with wrapping of frozen meats and fish, for example, has shown that the loosened coating interferes seriously with the effectiveness of Moistureproof Cellophane as a wrap.

Based upon the practice now followed by the Du Pont Pathe Film Company, a small amount of laboratory work has been done in more securely adhering the coating to Cellophane using hardened hydrolyzed gelatin. Due to the pressure of other work, this investigation was stopped, but in reopening the study work will be continued along the lines previously followed, as well as following up other leads which we have.

An improvement in the adherence for anchorage of the pyroxylin coating to Cellophane will be attempted by two methods of attack. First, coating Cellophane with some adhesive material and subsequently applying coating. Second, incorporating in the Cellophane some softener other than glycerin which will cause a greater adherence of the coating.

Preliminary work has been done along both of these lines with encouraging results. Work with a hardened hydrolyzed gelatin size on regular Cellophane, dried and then coated in the regular manner led to a result of a better anchored coating. Numerous problems in connection with this procedure, especially the correct concentrations, hardening agents, method of application and adaptability for machine application will have to be worked out.

REASON SHEET

Brief experiments in coating film softened with tricresyl phosphate gave an apparent improvement in adherence of the coating. As in the first method, much more work will be necessary before it will be possible to apply this process to regular manufacture. This work will require considerable time for development. Therefore, this Appropriation Request is written to cover the program of work laid out for the four months, January to April inclusive. Work will be carried out by Mr. J. C. Siemann, supervised by Dr. W. L. Hyden.

The forecasted expenditures amount to $1580.00, which will be distributed as per the attached sheet.

II. REASONS FOR DOING THIS WORK

From time to time it has been noted that an improved anchorage of a coating on Moistureproof Cellophane would materially increase the satisfaction of its uses. The use made of Moistureproof Cellophane by the General Seafoods Corp. in wrapping fillets which are subsequently defrosted, is an illustration. A more closely adhering coating will undoubtedly increase the uses of Moistureproof Cellophane, which should be reflected in increased sale.

III. BENEFITS EXPECTED

The above outlined work should lead to a better product, superior to the present Moistureproof Cellophane for many used, especially where water may come in contact with the film.

FG

FORM NO. R 399 A 12-28 2M

ACCOUNTING
BRADSHAW
CHEMICAL
SCHWARZ

CHEMICAL
HATT
J.P.SMITH

TECHNICAL DEPARTMENT APPROPRIATION REQUEST

Part I - Approved - $1,580
Part II " 1,600
Estimated Cost $ 2,750

TOTAL $5,930

Division Chemical

Title Improved Anchorage for the Coating of Moistureproof Cellophane

Study Number CX-78 - PART III

Process Affected

Moistureproof Cellophane

Date April 29, 1930

Applicable to Following Plants

All Cellophane

To be started

April 1, 1930

Suggested by J. E. Hatt

To be completed

September 30, 1930

Prepared by W. L. Hyden
Supervised by W. L. Hyden

Est. Monthly Expenditures $

April	$400	July	$400
May	400	Aug.	400
June	400	Sept.	400

Add Over-run $350

Approved [signature]
" Ernest H. Devan
" [signature]
" [signature]

Estimated Savings
(Per attached)

Authorized

DISTRIBUTION

Accounting Division

Please distribute all costs accumulated under this appropriation to:

CELLOPHANE - ALL PLANTS
Department

EK

CX-78 - PART III
IMPROVED ANCHORAGE FOR THE COATING OF MOISTUREPROOF CELLOPHANE

REASON SHEET

Give the following information in order:

1. A comprehensive general description of the study describing what is proposed to be done.
2. A statement of reason for wishing to do the work.
3. Statement of benefits expected, if experiment is successful.

Financial Status

Part I	- Approved 1/9/29 -	$1,580.00
Part II	- " 6/14/29 -	1,600.00
	TOTAL	$3,180.00
Expended to April 1, 1930	-	$3,527.54

I. REASONS FOR DOING THE WORK

The object in beginning the work was the development of a moistureproof Cellophane having the coating so firmly anchored that the Cellophane could be used in contact with water for indefinite periods without danger of the coating becoming loosened. Such a development would increase the use of moistureproof Cellophane as a utility wrap for such products as butter, cheese, ice cream, frozen meats, frozen fish, and the like.

Results in the laboratory have led to the production of such a film but the details and technique of adapting the laboratory developments to plant practice have not been worked out.

The most successful method of attaining the desired result so far developed consists of applying a casein solution to undried Cellophane, hardening with a suitable agent such as potassium dichromate, and subsequently coating with moistureproof lacquer. This treatment produces a moistureproof Cellophane, the coating of which is not loosened after indefinite periods of soaking in water at room temperature.

II. DESCRIPTION OF THE WORK

The study will be directed toward making this process applicable in the plant process and the experimental work in applying the casein coating will be carried out on the dyeing or plying machine.

This development will require means of applying a uniform size of the casein solution with suitable hardening agents, drying, and coating in the regular manner. Preliminary tests have shown that there are a number of variables to be eliminated before the process can be successfully employed.

The work will be carried out by Mr. J. C. Siemann, and supervised by Dr. W. L. Hyden.

III. BENEFITS EXPECTED

The successful plant application of the principle and method which have been developed in the laboratory will produce a special moistureproof Cellophane which can be used for a variety of products containing sufficient quantities of water to loosen the coating on regular moistureproof Cellophane.

The development will therefore extend the present application of moistureproof Cellophane.

EK

FORM NO. R 503 A 12-28 2M

ACCOUNTING
BRADSHAW
CHEMICAL
SCHWARZ
HATT
SMITH, J.P.

TECHNICAL DEPARTMENT APPROPRIATION REQUEST

Part I - Approved - $1,580
Part II - " 1,600
Part III - " 2,750
Estimated Cost $ Req. 1,775
Total $7,705

Division Chemical

Title Improved Anchorage for the Coating of Moistureproof Cellophane

Study Number CX-78 - Part IV

Process Affected
Moistureproof Cellophane

Date September 5, 1930

Applicable to Following Plants
All Cellophane

To be started
September 2, 1930

Suggested by J. E. Hatt

To be completed
November 30, 1930

Prepared by W. L. Hyden
Supervised by W. L. Hyden

Est. Monthly Expenditures $

September	$485
October	485
November	485
Over-run	$320

Approved W. L. Hyden W. H. Brandt
" [illegible] [illegible]
"
"

Estimated Savings
(Per attached)

Authorized

DISTRIBUTION

Accounting Division

Please distribute all costs accumulated under this appropriation to:

CELLOPHANE - ALL PLANTS
Department

9/11/30
[illegible]

EK

CX-78 - PART IV - IMPROVED ANCHORAGE FOR THE COATING OF MOISTUREPROOF CELLOPHANE

REASON SHEET

Give the following information in order:

1. A comprehensive general description of the study describing what is proposed to be done.
2. A statement of reason for wishing to do the work.
3. Statement of benefits expected, if experiment is successful.

Financial Status

Part I	- Approved 1/9/29	=	$1,580.00
Part II	- " 6/14/29	=	1,600.00
Part III	- " 5/15/30	=	2,750.00
	Total	=	$5,930.00
Over-run September 2, 1930		=	$320.00

I. REASONS FOR DOING THE WORK

This work is being carried out to develop a moistureproof Cellophane, the coating of which will not loosen when in contact with water and such foodstuffs as butter, cheese, ice cream, frozen meat, frozen fish and the like. Laboratory tests have shown that such a film can be obtained by two methods. These are:

(a) Sub-coatings of casein emulsions containing ammonium dichromate as a hardening agent.

(b) Sub-coatings of drying oils and varnishes.

The first method was found to give a satisfactory product by plant tests, but considerable time is required for the hardening of the casein emulsion by the dichromate.

Drying oils were found to give satisfactory anchorage of the coating in laboratory tests, but the oils were too slow in drying for plant operation. New quick drying varnishes have been developed at Flint and show promise of producing the desired result.

II. DESCRIPTION OF THE WORK

The quick drying varnishes developed by the Industrial Finishes Division have been found by preliminary tests to give encouraging results and tests in the plant with these varnishes as a sub-coating will be made. It appears that the varnish sub-coating will

prove to be the easiest method of accomplishing the result, but, if for any reason it is unsatisfactory, further work will be done on the casein emulsion sub-coatings. Other compounds which show interest in this connection and which will be tested in the laboratory include: double salts of alginates, some of the synthetic resins, hydrolyzed and hardened caseins and gelatins.

The work will be carried out by Mr. W. D. R. Straughn and supervised by Dr. W. L. Hyden.

III. BENEFITS EXPECTED

The use of Cellophane can be increased by the development of a special moistureproof Cellophane which can be employed for a variety of products which, at the present time, contain sufficient water to loosen the coating on regular moistureproof Cellophane.

WLH:EK

CC: Messrs. Bradshaw
Schwarz
Touchton

Buffalo, N. Y.

TO: EXECUTIVE COMMITTEE

FROM: TECHNICAL DEPARTMENT

APP'N REQUEST CL-78 - PART IV

$1775 - IMPROVED ANCHORAGE FOR THE COATING OF MOISTUREPROOF CELLOPHANE

Part I	- Authorized by Mr. E. K. Gladding with the concurrent approval of Mr. J. E. Hatt - 1/9/29	- $1580
Part II	- Authorized by Mr. E. K. Gladding with the concurrent approval of Mr. J. E. Hatt - 6/14/29	- 1600
Part III	- Authorized by Mr. E. K. Gladding with the concurrent approval of Mr. J. E. Hatt - 5/15/30	- 2750
Part IV	- Authorized by Mr. E. K. Gladding	- 1775
		$7705

REASONS FOR PART IV

The first three parts of this Appropriation Request made available funds for exploratory experimental work to determine ways and means of anchoring the coating on moistureproof Cellophane so that it would not loosen when in contact with water. This quality is urgently needed by users of moistureproof Cellophane who wrap frozen fish and meats and would extend its use for other products such as butter, ice cream and the like.

Two successful methods have been found to give good results in the laboratory. These are casein and drying oil sub-coatings. Altho plant trials with the casein method have been successful, further details must be worked out before it can be considered a satisfactory method. Recently, new quick drying oils and varnishes have become available and this method now shows promise of giving more practical means of achieving the desired result than the casein method. The immediate program will be focused on drying oil sub-coatings with the object of completing the study and submitting it for plant operation.

E. K. Gladding
GENERAL MANAGER

WLH:EK

TECHNICAL

Defendant's Exhibit No. 400

FORM NO. K 386

ACCOUNTING
SCHWARZ
ENGINEERING
HATT (N. Y.)

PICKENS
TWING
RECORD BOOK
PROJECT FILE

DUPONT
RAYON & CELLOPHANE
2 PARK AVE.

TECHNICAL DEPARTMENT APPROPRIATION REQUEST

Division CHEMICAL

Estimated Cost $ 1160

Title IMPROVED COATING OF MOISTUREPROOF CELLOPHANE

Study Number CX-39, Part II

Process Affected
CELLOPHANE

Date 10-11-28 (11/2)

Applicable to Following Plants
CELLOPHANE

To be started NOV. 1, 1928

Suggested by M. D. LEE

To be completed FEB. 28, 1929

Prepared by W. L. HYDEN
SUPERVISED BY W. L. HYDEN

Est. Monthly Expenditures $

NOV.	$290
DEC.	290
JAN.	290
FEB.	290

Approved Russell M. Pickens 11/2
" JHE 11/5 RAN
"
"

Estimated Savings $
(Per attached)

None

Authorized [signature]
Comptroller's Dept.
By [signature] 11/15/28

DISTRIBUTION

Accounting Division

Please distribute all costs accumulated under this appropriation to:

CELLOPHANE
Department

HM

REASON SHEET

Give the following information in order:

1. A comprehensive general description of the study describing what is proposed to be done.
2. A statement of reason for wishing to do the work.
3. Statement of benefits expected, if experiment is successful.

APPROPRIATION REQUEST CX-39, Part II

SUBJECT: - IMPROVED COATING OF MOISTUREPROOF CELLOPHANE

Description of the Work:

Part I of this appropriation request was made to cover the expenses of studies of methods of applying the coating to Cellophane in a more uniform manner by varying the position of the doctor knives, tension and consistency of the coating bath. Special grades of paraffin were to be studied also. Part I $711.00.

Some work has been done using aromatic hydrocarbons with paraffin, yielding interesting results. Further work will be necessary before they can be applied on a production basis. Viscosity tests have been made in controlling the mixing of the coating bath.

Experiments are to be made using a high melting paraffin wax (145°), as soon as it is received.

Work along these lines will be continued with emphasis directed toward machine and operating modifications such as tension, drafts, velocity and volume of air in the Drying Tower, with the object of improving the quality of Moistureproof Cellophane.

The work will be in charge of Mr. J. C. Siemann and supervised by Dr. W. L. Hyden.

The total expenditure is not expected to exceed $1160. The proposed distribution of expenses is as follows:

	Nov.	Dec.	Jan.	Feb.	Total
Chem. Div. Salaries	$135	$135	$135	$135	$540.
Overhead	40	40	40	40	160.
Labor & Materials	25	25	25	25	100.
Mech. Exp. Eng. Assistance	90	90	90	90	360.
	$290	$290	$290	$290	$1160.

DUPONT

Reasons for Doing this Work

It is believed to be possible and desirable to make further improvements to both the quality and the uniformity of Moistureproof Cellophane. The average quality of Moistureproof Cellophane is good, but there are some rolls of regular production which are distinctly superior in their resistance to the permeability of water vapor. It is not known just what factors produce these unusually good moistureproof films. Work should be done, therefore, to make further improvements in the quality and uniformity of Moistureproof Cellophane.

Benefits Expected

This work is expected to lead to an increase in the quality of Moistureproof Cellophane and a more uniform product.

DUPONT CELLOPHANE

DU PONT CELLOPHANE COMPANY, INC.

BUFFALO, N. Y.

November 9, 1928

Mr. J. P. Smith
Director of Production

SUBJECT: PROJECT CX-39
PART II

All of the work in this project is along the lines of improved quality of CELLOPHANE coating, but it seems to me that some of it could be classified as "assistance to operations." It is very difficult to know just "where the snake's tail begins" when we talk about "assistance to operations" but inasmuch as this is really all quality work on Moistureproof CELLOPHANE, I am approving as outlined.

On this you may rest assured that the money requested in this project will not be spent unless absolutely necessary, but it is figured that it will take probably four months to finish the work outlined.

This is one of the projects where it is very difficult to estimate the time necessary to accomplish the desired results. What appears on the project is merely our best guess at this time.

E. K. GLADDING
GENERAL MANAGER
TECHNICAL DEPARTMENT

EKG:HS

FORM NO. E 389

Accounting
Engineering
Pralatowski
Pickens
Record Book
Project File
Twing

TECHNICAL DEPARTMENT APPROPRIATION REQUEST

Division Chemical

Estimated Cost $ 711.00

Title Quality of Moistureproof Cellophane

Study Number CX-39

Process Affected Moistureproof Cellophane

Date September 12, 1928

Applicable to Following Plants
Cellophane

To be started July, 1928

Suggested by M. D. Lee

To be completed October, 1928

Prepared by W. L. Hyden
Supervised by W. L. Hyden

Est. Monthly Expenditures $

July	291
August	140
September	140
October	140

Approved [signature] 9/13/28
" [signature] 9/13
" [signature]
"

Estimated Savings $
(Per attached)

Authorized [signature]
Comptroller's Dept.
By [signature] 9/13/28

DISTRIBUTION

Accounting Division

Please distribute all costs accumulated under this appropriation to:

Cellophane
Department

C:AGS

REASON SHEET

Give the following information in order:

1. A comprehensive general description of the study describing what is proposed to be done.
2. A statement of reason for wishing to do the work.
3. Statement of benefits expected, if experiment is successful.

CX-39 QUALITY OF MOISTUREPROOF CELLOPHANE

This appropriation request is a subdivision of CX-14 dated July 1, which was returned unapproved by the executive committee because the information given for that request was of too broad scope. The committee requested further subdivision with more definite and specific data as to the exact nature of the work as well as an enumeration of the benefits which were expected. This appropriation request is for work to be carried out by the Chemical Division on the above subject for four months, July, August, September and October.

1. DESCRIPTION OF THE WORK: The present Moistureproof Cellophane is non-uniform in moistureproof quality, variations of 200% occurring between the two edges of the film. At various times production has been obtained which has tested five to ten times better than the average.

Under this appropriation, a study will be made of methods of applying the coating in a more uniform manner, varying the position of the doctor knives, tension, and consistency of the coating bath. It is proposed to push this work actively as soon as the second coating machine is on a production basis which will enable the Chemican Division to obtain the part-time use of one machine.

A study of the effect of various chemical s in the coating will also be made and various special grades of paraffin will be tried as they are obtained. The work will be carried on by Mr. J. C. Siemann, supervised by Dr. W. L. Hyden.

It is expected that the total expenditure for the program as outlined will be about $711.00. Further work will be covered by a separate appropriation request.

The proposed distribution of expenses is as follows:

	July	Aug.	Sept.	Oct.
Chem. Div. Direct Salaries	$	$ 60	$ 60	$ 60
Mech. Exp. Div. Direct Salaries		13	13	13
Chem. Div. Overhead		30	30	30
Mech. Exp. Div. Overhead		7	7	7
Labor and Materials		30	30	30
Assistance from Mech. Experimental Div.				
Total	$ 291*	$ 140	$ 140	$ 140

* Actual Expenses

CX-39 QUALITY OF MOISTUREPROOF CELLOPHANE

2. REASONS FOR DOING THIS WORK: It is believed to be possible and desirable to make further improvements to both the quality and the uniformity of Moistureproof Cellophane. The average quality of Moistureproof Cellophane is good, but there are some rolls of regular production which are distinctly superior in their resistance to the permeability of water vapor. It is not known just what factors produce these unusually good moistureproof films. Work should be done, therefore, to make further improvements in the quality and uniformity of Moistureproof Cellophane.

3. BENEFITS EXPECTED: This work is expected to lead to an increase in the quality of Moistureproof Cellophane and a more uniform product

AGS

Defendant's Exhibit No. 401

DU PONT CELLOPHANE COMPANY, INC.

ADVICE OF ACTION

COPY TO:

F. K. Gladding, G.M. Technical Dept.
M. W. Touchton, Comptroller

New York, N. Y.
January 21st, 1932.

TO: T. L. Hines, A.G.M.
Cellophane Department.

SUBJECT: CHEMICAL EXPERIMENTAL APP'N. REQUEST CX-186 - $19,200. - CELLOPHANE CASTING MACHINE STUDIES:

ACTION TAKEN BY Executive Committee

AT MEETING January 20th, 1932.

REMARKS Referring to your letter of January 13th (#1233), and after discussion with Mr. Gladding, the above mentioned appropriation request was unanimously granted.

The original and three other copies of the authorized project have been forwarded to the Comptroller.

F. G. Hess, Secretary
EXECUTIVE COMMITTEE.

1-K

ACCOUNTING
BRADSHAW
CHEMICAL
SCHWARZ

HATT
EXECUTIVE COM.
EXTRA

TECHNICAL DEPARTMENT APPROPRIATION REQUEST

Division Chemical

Estimated Cost $ 19,200

Title Cellophane Casting Machine Studies

Study Number CX-186

Process Affected

All Cellophane

Date December 29, 1931

Applicable to Following Plants

All Cellophane

To be started

January 1, 1932

Suggested by E. K. Gladding

To be completed

December 31, 1932

Prepared by W. L. Hyden
Supervised by W. L. Hyden

Est. Monthly Expenditures $

$1600/month for 12 months

Approved W L Hyden W L Hyden
" Proff W H Bradshaw
" E K Gladding
" H T Hyden [illegible]

Estimated Savings
(Per attached)

Authorized

[illegible] 20 [illegible]
[illegible]

DISTRIBUTION

Accounting Division

Please distribute all costs accumulated under this appropriation to:

CELLOPHANE - ALL PLANTS
Department
(CAPS AND BANDS EXCLUDED)

CLASS A & B

EK

941 TM 9-51

CX-186 - CELLOPHANE CASTING MACHINE STUDIES

REASON SHEET

Give the following information in order:

1. A statement of reason for wishing to do the work.
2. A comprehensive general description of the study describing what is proposed to be done.
3. Statement of Benefits expected, if experiment is successful.

I. REASONS FOR DOING THE WORK

In the casting of Cellophane very radical improvements can be made both in the equipment and in the chemical process as now carried out. For example, the hopper lips corrode causing streaks; the condition of coagulation is not correct which also causes streaks; and the coagulating bath can be improved both from the point of view of quality of product and economy of operation. The purification operations can be simplified and improved from the point of view of quality of finished film. The drier operation requires intensive study. Any studies directed towards correcting these conditions will enable us to operate at higher speeds.

Some of this type of work carried out during 1931 is as follows:

Tests at Old Hickory and Spruance with increased casting machine speeds upwards of 40 meters per minute. These tests resulted in installations at the Southern Plants to obtain the higher speeds.

An extended study of ammonium sulfate bath was made and a circulating system adopted. The correct concentration and temperature were determined.

Studies to accumulate fundamental data on the various baths in the casting machine were made. This work included not only the efficiency of the countercurrent washing principle as suggested by Old Hickory, but also studies in desulfuring Cellophane. These studies will result in improved purification of film with reduction in cost.

Lacquered drier rolls were shown to be effective in producing wider film at the wind-up and a Technical Department Recommendation was authorized for the procedure.

A method of applying sodium silicate to the film to eliminate sticking was developed and is being used in the manufacture of all export stock.

At Spruance assistance was given in the operation of the glycerol bath.

It is expected that work similar to the above will be required during the coming year, and this Appropriation Request is submitted for funds to make such investigations.

II. DESCRIPTION OF THE WORK

In general, the studies will include experimental work directed towards: improvement of the product, economies in operation, and overcoming operating difficulties at the request of the Production Department. Some of the studies contemplated include:

Casting at higher speeds.

Continuation of studies of film purification and glycerol impregnation.

Elimination of streaks.

Coagulating bath studies.

Further investigation of methods to eliminate sticking in plain transparent Cellophane.

Cooperation with the Mechanical Experimental Division on drier studies.

Completion of studies and establishment of standards for numerous problems already under investigation, such as ammonium sulfate bath, control of bacteria in the glycerol bath, etc.

Other problems of importance, but of a similar nature, will be investigated as they arise.

This work will be carried out under the supervision of W. L. Hyden.

III. BENEFITS EXPECTED

These studies will result in a general improvement in quality of the Cellophane and in more efficient and economic operation.

EK

Defendant's Exhibit No. 402

FORM NO. 9 399

ACCOUNTING
ENGINEERING
PRALATOWSKI

PICKENS
TWING
RECORD BOOK
PROJECT FILE

TECHNICAL DEPARTMENT APPROPRIATION REQUEST

Division Chemical

Estimated Cost $ 2868.

Title Moistureproof Cellophane Adhesives

Study Number CX-48

Process Affected Moistureproof Cellophane

Date Sept. 7, 1928

Applicable to Following Plants Cellophane

To be started July 1928

Suggested by W.H.Charch

To be completed October 1928

Prepared by W.L.Hyden

Supv. by W.L.Hyden

Est. Monthly Expenditures $

July	$618
Aug	750
Sept	750
Oct.	750

Approved [illegible] 9/13/28 RDW

" [illegible] 1/14

" Ernest D Benson

" [illegible] 9/20 [illegible]

Estimated Savings $
(Per attached)

Cellophane Co

Authorized Comptroller's Dept By [illegible] 10/1/28

[illegible] Secy

DISTRIBUTION

Accounting Division

Please distribute all costs accumulated under this appropriation to:

Cellophane
Department

MLB

CX-48
Moistureproof Cellophane Adhesives

REASON SHEET

Give the following information in order:

1. A comprehensive general description of the study describing what is proposed to be done.
2. A statement of reason for wishing to do the work.
3. Statement of benefits expected, if experiment is successful.

This appropriation request is a subdivision ov CX-16, dated July 1, which the Executive Committee granted with reservations, and requested that a further break-down be made and more specific information be given. This particular subdivision covers only the proposed work which will be carried out by the Chemical Division during the four months of July to October inclusive.

Description of Work:

The object of this appropriation request is to develop better adhesives and to modify them to suit specific needs. It should not be confused with CX-54 which is limited to the production of adhesives (already developed) for use by the consumer. Expenses incurred against CX-54 are to revert to the Production Department later.

It is hoped that a single adhesive may be developed for general hand application. For machines which wrap packages in Moistureproof Cellophane, different types of adhesives will be necessary due to the various designs of gluing mechanism. This will involve some travelling as it will be necessary to actually see the machines in operation and try the adhesives in order to determine the one which is more suitable for a given purpose. The work will include investigations with natural and synthetic gums and resins with various solvents and plasticizers. Gelatine, casein, lacquers, etc. will be incorporated by dissolving and emulsifying.

This work will be done by Dr. J.E. Snyder and supervised by Dr. W.L. Hyden. The total expenditures will amount to approximately $2868. This expense will be distributed as follows:

	July	August	September	October
Chem. Div. Direct Salaries		$300	$300	$300
Mech. Exp. Div. Direct Salaries		17	17	17
Chemical Div. Overhead		150	150	150
Mech. Exp. Div. Overhead		8	8	8
Traveling Expenses		150	150	150
Labor & Materials		125	125	125
	$618*	$750	$750	$750

* Actual Expenses

CX-48
Moistureproof Cellophane Adhesives

REASONS FOR DOING THIS WORK:

The usual adhesives used for plain transparent Cellophane are not effective in adhering Moistureproof Cellophane to itself or to other materials. Various glue manufacturers have attempted to supply suitable adhesives for Moistureproof Cellophane, but with little or no success.

For many purposes in which Moistureproof Cellophane is used, it is essential that a closed sealed package be made in order to realize the benefit of the moistureproof wraps. The lack of suitable adhesives has, therefore, limited the uses of Moistureproof Cellophane and caused serious complaints from the trade. The Sales Division Executives have felt that it was absolutely imperative to have suitable adhesives for Moistureproof Cellophane. Little or no information could be gained from the literature and it has been necessary for the Chemical Division to start at the very beginning and develop entirely new types of adhesives for this material.

BENEFITS EXPECTED:

Satisfactory adhesives for Moistureproof Cellophane will undoubtedly increase the effectiveness with which Moistureproof Cellophane can be used by the trade, and will, therefore, reflect in increased sales the value of such research work on moistureproof adhesives. Furthermore, good adhesives will make it possible to employ Moistureproof Cellophane for many uses heretofore impractical when sealing was desired.

MLB

Defendant's Exhibit No. 403

Ref. 47

First 9 Pages of Report

Adhesives for Moisture proof Cellophane

ADHESIVES FOR MOISTUREPROOF CELLOPHANE

A GENERAL SURVEY OF

EXISTING CONDITIONS

JANUARY 1927

by Ralph Schilley

This is certainly misdated by a year. The work described was done in the year 1927 and not 1926. The date should be January 1928.

[illegible] 4/24/31

RETURN TO CHEMICAL DIVISION

[illegible]

M 25

DEFENDANT'S EXHIBIT NO. 2055A

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[COPY OF ILLEGIBLE TEXTUAL MATERIAL]

DEFENDANT'S EXHIBIT NO. 2055A

1. OBJECTIVE:

To review the progress made to date in developing a satisfactory adhesive for Moistureproof Cellophane; to make a study of the situation in the field; to make suggestions for future experimental work and recommendations for proper methods of using these adhesives.

2. SOURCES OF INFORMATION:

1. Trade record reports of companies using Moistureproof Cellophane.
2. Correspondence with companies using Moistureproof.Cellophane.
3. Answers to questions sent to salesmen.
4. Actual observations in plants where Moistureproof Cellophane was used.
5. Direct contact with development work.
6. Library work.

3. HISTORY OF ADHESIVE SITUATION:

With the advent of successfully manufacturing a Cellophane, moisture-tight in every respect, came the problem of finding an adhesive that would satisfactorily adhere to it. The first step taken was the trying out of all available water solubles adhesives, but not one of them would cohere. This was more or less expected, inasmuch as the film was moistureproof and would not allow any absorption of adhesive which is essential for a water soluble glue.

Inquiries were sent to all leading adhesive manufacturers together with samples of the material in question.

[COPY OF ILLEGIBLE TEXTUAL MATERIAL]

In the meantime, while awaiting replies, experiments were conducted with spirit soluble gums. Work had been done some time previous with copal gum dissolved in acetone using castor oil as a softening agent. This mixture was found to adhere the Moistureproof Cellophane although it did not have much strength. It did, however, give a definite line of attack that was hoped would eventually lead to a satisfactory solution to the problem.

The inquiries sent out to the adhesive manufacturers brought nothing - all of them giving it up as a hopeless task. It was for the Research Department to finally formulate an adhesive that would answer the purpose. This was not accomplished until after months of work with many kinds of spirit soluble gums. Naturally, all work was badly handicapped because of no information available on this type of adhesive, as well as very little being known regarding the properties of the fossil gums employed. Considering this there is no question but that progress has been made toward perfecting an ideal adhesive for Moistureproof Cellophane.

Some several hundred formulas have been made up using various gums, solvents and softeners, and of these Copal resin dissolved in acetone, alcchol or a mixture of both, with castor oil as a softening material was found to be best for adhesive purposes. Solutions of varying physical properties as to viscosity, color rapidity of setting, stringing, odor, strength, etc., were obtained.

[COPY OF ILLEGIBLE TEXTUAL MATERIAL]

DEFENDANT'S EXHIBIT NO. 2055A

No.278 adhesive was eventually formulated and has become one of the glues most used on Moistureproof Cellophane. This formula originally consisted of

1.0 part by weight of a water white copal gum.

1.5 parts by weight of acetone.

0.5 parts by weight of castor oil.

Later, the grade of copal which was one of the hardest kinds and therefore contained a large percentage of insoluble material was replaced by Pontianak resin, a much darker gum of the Manila copal group. This gum is much softer and very soluble in alcohol. The results obtained showed it to be superior to the harder resin.

As the use of Moistureproof Cellophane increased, the demand for adhesives correspondingly increased with the result that it was necessary to find an adhesive manufacturer who would make this type of glue. After putting the proposition up to several companies, the Williamson Gum & Glue Works accepted our offer. For the past several months this concern has been manufacturing two adhesives for Moistureproof Cellophane -

No. 278 - our old formula

No. 4442 an adhesive that has a sweet odor - and less odor than No. 278 - incidentally a product of their own.

Recently they produced No. 4525 which seems to be an exceptionally fine glue. Tests just completed have shown this glue to be far better than No. 4442 in that it has less objectionable odor, takes hold quickly and does not lose strength on standing.

[COPY OF ILLEGIBLE TEXTUAL MATERIAL]

DEFENDANT'S EXHIBIT NO. 2055A

Recent developments in the study of adhesives for Moistureproof Cellophane by our Research Department have indicated the possibility of overcoming many of the present difficulties encountered with the use of the present glues in wrapping merchandise. We cannot at this writing include this information as the tests have not been completed.

One of the newer developments in adhesives is the use of gum Tarnati for replacing Pontianak resin. Preliminary tests have shown this gum to be softer and more readily soluble in alcohol then Pontianak. It also makes an adhesive that does not string as badly as Pontianak and in addition is a much cheaper resin.

There have been other developments as adhesives for machine wrapping, gummed labels, etc. These will be taken up in detail later.

4.OBJECTIONS TO THE PRESENT TYPE OF ADHESIVE

Like all new things there are objections o the use of the spirit soluble adhesives to be met with. These objections can and are being overcome by proper information on adhesives and experience in their handling. In addition to these, work is being carried on continually by the Research Department to improve the adhesives so that there will be no cause for complaints.

At present there are some two hundred concerns using Moistureproof Cellophane, the greater number of whom are also using Moistureproof Cellophane adhesive in some manner.

[COPY OF ILLEGIBLE TEXTUAL MATERIAL]

DEFENDANT'S EXHIBIT NO. 2055A

82 percent of these accounts are manufacturers of food products and in the majority of cases are wrapping the products directly using Moistureproof adhesive alone, or applied to labels.

The classifications according to the number of accounts using Moistureproof Cellophane are as follows:

Baked Goods	43.7 %
Candy	24.0 "
Fish	3.9 "
Fruit	3.2 "
Cheese	2.3 "
Meat	4.7 "
Cigars	4.7 "
Miscel.	13.5 "

This shows our greatest field for Moistureproof Cellophane today to be in the baked line and it is here that we find our two major complaints - namely odor and difficulty of handling properly.

That there is cause for these complaints was indicated by the results secured from the questionaire sent out to the salesmen. Very few concerns, reported on, are using our adhesive without some difficulties - in fact it can be said that 3 out of every 4 users of this type of adhesive object to it. Why it is being used is not because the concerns in question are "getting by" satisfactorily without difficulties - but because it is the only material that will seal Moistureproof Cellophane.

[COPY OF ILLEGIBLE TEXTUAL MATERIAL]

Heretofore, with wrapping materials the sealing question has been given little thought because rarely have they ever been faced with any "sticking" problem. Today the adhesive situation for Moistureproof Cellophane is uppermost in the minds of all users. It has become a problem of vast importance to the wrapper and in some instances is limiting the use of Moistureproof Cellophane.

Let us first review the situation from a standpoint of complaints and then consider the methods of overcoming these difficulties.

Complaints on Odor This unquestionably is the chief objection to our Moistureproof adhesives - most of these complaints coming from manufacturers of baked goods. It is claimed by many that the products wrapped in Moistureproof Cellophane and sealed with these glues absorbed a foreign taste and odor. Naturally, complaints from the consumer followed on the merchandise in question with the result that some concerns discontinued using Moistureproof Cellophane and went back to either waxed glassine paper or normal Cellophane. This class, of course, is considerably in the minority, nevertheless it is of sufficient importance not to pass without mentioning.

Many concerns, where possible, have done away with the use of the adhesive, resorting to string, ribbon or water soluble gummed tape. This method does not give a tightly sealed package and therefore has its objections.

Defendant's Exhibit No. 404

CC: Messrs. W. H. Bradshaw
M. D. Lee-E.W.Scheer
J. E. Hatt
H. O. Thayer

Buffalo, N. Y.
July 13, 1932

Ref 103

TO: Mr. L. A. Yerkes, P.

FROM: Technical Department

CLOSING REPORT ON CX-142

DEVELOPMENT OF IMPROVED MOISTUREPROOF CELLOPHANE ADHESIVES

This Appropriation Request was closed on July 1, 1932 with the following financial status:

Amount authorized - Part I	, March 1, 1930	=	$ 4,500.00
" II	Oct. 15, 1930	=	5,900.00
" III	May 20, 1931	=	8,200.00
Total Authorization			$18,600.00
Amount spent to July 1, 1932			19,595.42
Over-run			995.42, Approx. 6%

Origin and Scope of Study

Work under CX-142 was done at the request of the Sales Division. It covered experimental work in improving adhesives for both P.T. and M.T Cellophane and in developing new ones when needed. It included assistance to customers in varied problems involving adhesives.

Work Accomplished

Under this project Adhesives Nos. 580, 738, 745, Melts Nos. 18 and 25 and Laminating Adhesive No. 60 were developed. Adhesive No. 446 was improved. Tricresyl phosphate was eliminated from all adhesives.

Other developments included cheaper solvent mixtures for the solvent-sealing process, transparent splicing tape, thermo-active gummed labels, gummed Moistureproof Cellophane (water energized), alcohol moistenable stamps for Moistureproof Cellophane, and sizing for Moistureproof Cellophane to which ordinary stamps will adhere by moistening with water. A laboratory laminating machine was constructed, and numerous samples of laminations were prepared for the Sales Division. Assistance was given to the Sales Division in the application of adhesives to several customers' plants. The Production Department was assisted in transferring the preparation of all new adhesives from laboratory to plant scale. The Patent Division was assisted in drawing up ten applications concerning adhesives. One has been granted.

Present Status

Improvements in adhesives will be continued under Appropriation Request CX-206.

Benefits Gained

The development of satisfactory adhesives has permitted the entry of Moistureproof Cellophane into the cigar tube, bag, envelope, sealed wrap, window envelope, window carton and window bag fields.

Prepared by: G. P. Hoff
G. P. Hoff
Asst. Chemical Director

Submitted by: E. K. Cladding
E. K. Cladding
Asst. General Manager

JES:EK

✓ Defendant's Exhibit No. 405A

~~(COPY OF ILLEGIBLE TEXTUAL MATERIAL)~~

CC: V. C. Clark, Phila.
H. D. Chickering

March 27, 1940

WELWOOD NORWICH SILK MILLS, INC.,
Belvidore,
New Jersey.

Attention: Mr. H. Nalven, Superintendent.

Gentlemen:

You have been buying from us a No. 559 adhesive for moistureproof "Cellophane". This has been supplied by us to many concerns over a period of time, due to the fact that suitable adhesive materials were not avialable when we first marketed moistureproof "Cellophane". It was therefore necessary for the du Pont chemists to create something to work on the then new product, which they did.

Since then, adhesive manufacturers have been interested in developing a suitable material to supplant and replace those we have made, as you can appreciate we are not adhesive manufacturers.

All of the adhesives presented to us have been carefully tested and can be recommended for use with moistureproof "Cellophane".

The materials found most suitable for your use, together with the names and addresses of the manufacturers to whom we refer you are given on the attached sheet, as well as your total purchases from us in 1939, and we are asking you to consider this letter as a notice of discontinuance of manufacture and a word of appreciation for your continued patronage of "Cellophane".

Very truly yours,

A. F. Wendler, Manager
SALES SERVICE SECTION.

P
CLS

FORM R-[illegible]

67C

-2-

Welwood Norwich Silk Mills, Inc.
concluded

DU PONT ADHESIVE	RECOMMENDED SUBSTITUTE
559	Union Paste Company's 651 National Adhesives Division's Q-1[illegible]

Total purchases of 559 - [illegible]-3/4 gallons

Union Paste Company, 200 Boston Avenue, Medford, Massachusetts.

National Adhesives Division, National Starch Products, 550 Greenwich Street, New York, New York.

FILE COPY

Defendant's Exhibit No. 406

B-1208

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE

CELLOPHANE DIVISION

cc: A. Kunsman
C. F. Brown
E. C. Lake

February 2, 1948

TO: T. L. HINES

FROM: J. E. DEAN

DISCOUNT CHANGES

In accordance with your request we are setting forth below changes made since 1941 in the discounts allowed our several classifications of trade.

CONVERTERS

Effective January 1, 1947 the discount allowed to converters was reduced from 10% to 7-1/2%.

When this change was effected a definition of purchases entitled to this discount was put in writing and distributed to customers involved in the change.

FABRICATORS

As of January 1st, 1947 discounts for this trade classification were discontinued. Up to this date fabricators had received a 3% discount.

USERS

Quantity discounts were discontinued as of January 1st, 1947.

DISTRIBUTORS

The discount allowed distributors was reduced from 10% to 7-1/2% on January 1st, 1947.

In accord with our policy of discontinuing distribution of rolls in quantities of 500 pounds and up through wholesale distributors the following terminations have been arranged:

1. Morgan L. Ellis Company

   Terminated May 1943.

2. H. D. Catty Corporation

   Terminated gradually throughout the year 1945.

3. Brooks Paper Company

   Terminated September 1st, 1947

M 1208

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE

CELLOPHANE DIVISION

Mr. T. L. Hines
(concluded)

February 2, 1948

4. Zellerbach Paper Company

Will be terminated July 1, 1948.

With the above changes we have left only Smith-Lee, Inc., and National Manufacturing Company acting in the capacity of wholesale distributors. These two concerns sell exclusively to dairy supply jobbers and in a few instances direct to large dairies. We allow Smith-Lee and National 7-1/2% discount on all Cellophane purchases. No changes are contemplated in our arrangements with them at this time.

JED:JL

M12308

Defendant's Exhibit No. 407

4-1-49

SALES POLICY

Covering Prices, Discounts, Terms, Agreements
in Effect as of July 1st, 1948 Revised April 1, 1949

1. PRICES

Our prices are based on one minimum quantity (500 pounds) for rolls and one minimum quantity (case lot) for sheets.

Orders for less than these quantities are ordinarily referred to logical jobbers or converters. However, acceptance of such orders by us is entirely at our discretion and they are billed at regular schedule. Small orders should be accepted for direct shipment in cases where:

(a) The customer is not a logical jobber customer (large organization or Government Department).

(b) One who may be expected to soon become regular case lot buyer.

(c) Indirect trade.

(d) Where the material is known to be ordered for experimental purposes.

Orders for seconds should be accepted in any quantity.

2. CONDITIONS OF SALE

As printed on reverse side of order acknowledgment mailed directly to customer by plant as soon as order invoice is typed.

3. DISCOUNTS

No discounts are in effect on domestic sales except that extended to converters, as defined below.

M121

4. CONVERTERS

A discount of 5% is allowed to any customer on material which is purchased for processing and subsequent resale defined as follows:

"Cellophane which is processed and subsequently resold to others in the form of a primary packaging material, container or integral portion of a container.

"Processing includes printing, embossing, laminating, making cut-to-size sheets, bag making, coating, fabricating into windows or liners for cartons, wrapper or bags, rewinding into rolls of less than our minimum standard O.D. for resale; also similar preparation for packaging uses competitive to the foregoing, if and when developed.

"Tapes, ribbons, cords, garment bags, covers, bon bon cups, decorative novelties and other fabricated items are not used as primary packaging materials, containers or integral portions of containers and thus do not qualify for a discount."

In cases where a direct user converts for his own use (such as bag making) and resells to others some of his converted material, the converter discount is allowed only on the material resold to others upon submission of proper evidence (invoices, end-use on orders, etc.). Jobbers who convert for resale are also handled on the same basis.

In case a direct user sets up a converter subsidiary, discount will not be allowed on material converted for the controlling company.

5. SALES AGREEMENTS

There are none such in effect for domestic sales.

MIAI

6. FREIGHT EQUALIZATION

As covered by P. & I. Book.

Customers located in plant cities have privilege of plant pick-up, otherwise pay delivery cost. However, if order is shipped from non-logical plant and equalization is allowable, no delivery charge is made.

7. ORDERS

Every effort should be made to get all customers to note end-use on all orders -- this for the purpose of checking proper type of film and, in some cases, proper application of converter discount.

8. DISTRIBUTORS

There are now no wholesale "distributors" of Cellophane -- only one resale classification, i.e., jobbers, who buy at net prices, no discount.

Exception: Smith-Lee and National Manufacturing Co. are exclusive distributors of roll Cellophane to the dairy industry for milk bottle hoods. Material ordered by them is in special put-up covered by special quotation, billed at net, no discount. We should refer dairies to Smith-Lee for bottle hoods.

9. JOBBERS

There are no territorial limitations imposed, or exclusive territories granted, to jobbers.

M1211

All film sold to jobbers is billed at list prices, no discount, with no limitation as to whom and where they can sell (exception, rolls for milk bottle hoods). Jobbers set their own resale price schedules. There is no "suggested resale schedule".

Certain accounts are both jobbers and converters (such as Catty, Brooks and Zellerbach). In all such cases, they receive no discount on material resold in original form.

Seconds are not sold to jobbers -- only to direct users.

We will not drop-ship for a jobber.

10. GOVERNMENT BUSINESS

Invitations to bid are handled in Wilmington only. Price to U. S. Government is best commercial price, i.e., net, no discount.

11. STANDARD LABEL

Agreement covering use of standard label was revised as of January 1st, 1947. Its use is available to all customers.

12. EXPORT

Development and handling of business outside the Continental United States and Canada (including placement of orders on our plants) is the responsibility of the Export Section, including every country in the world where import license and exchange conditions permit.

Business is orginarily handled through distributors given exclusive resale franchises in designated territories. Relationship with distributors is covered in detail by sales agreements cancelable on 60-day notice.

M1211

Prices in all countries are governed by one export schedule f.a.s. Atlantic or Gulf ports

Distributors' discounts and commissions are as follows as of September 1st, 1948:

On rolls 5%

On sheets 10%

Du Pont policy is that export business should return net profit equal to domestic. For this reason, roll prices are higher than U. S. prices, due to distributor discount and higher handling costs.

The export market has the greatest potential for disposing of our production of sheets in excess of domestic requirements. The export sheet business is, therefore, not considered subject to the profit policy referred to above and prices for sheets are now equal to U. S. schedule (first class). Our policy will be to set whatever price is necessary to move the desired volume. There is no seconds classification for export sheets.

M1211

Defendant's Exhibit No. 408

CELLOPHANE TYPES FOR PRODUCTS

PRECAUTIONS

The film types listed herein are suggestions only. They normally satisfy the package requirements for the product indicated. Selection of film type was based on experimental and trade experience. For every use abnormalities in product, machinery, distribution, etc., may exist for which other film types may be more suitable or in which Cellophane may not be adequate at all. When you suggest these film types to your customer, advise that trials be made whenever abnormalities in product or packaging are suspected or the customer is inexperienced in the use of Cellophane.

Cellophane should not be used as the only packaging material for powdery products. Such products are milk powders, drink powders, flour products, dessert powders, powdered starch and chemical or drug powders.

GENERAL NOTES

Listing of products is the same as in General Bulletins No. 10, April 4, 1947, and No. 66, July 6, 1948. Some items are given additional breakdown of products when different film uses are required. Some items are omitted where similar items have been covered. No information is given for items which may vary greatly in package requirement, such as toys.

On bags, "dw" refers to double-wall units (first film listed is the inside wall), and "sw" refers to single-wall units.

Gauge is indicated where experience has shown the gauge that is generally desirable.

MSAT-82 and 83 should be substituted for MSAT-86 and 87, respectively, where greatest stability of heat-seal strength is required.

MST-54 may be used in place of MST-52.

Only MST-51, MST-53, MST-57, MSAT-83 or MSAT-87 should be run on a Modern Clipper or Anderson bag-making machine.

Notes covering more than one line are bracketed and refer to the item opposite the top line.

New items will be added or changes made when facts justify.

If, in your opinion, the film type suggested herein or subsequently covered by bulletin appears unsuitable for the product, refer the problem of film selection to Technical Service.

10/1/48

PRODUCT	PACKAGE OVERWRAP	DIRECT WRAP	BAG	OTHER APPLICATIONS
CIGARETTES				
Cigarettes	300 MT-31			(300 MST-52 (for bundles, (carton or rigid (pack
CIGARS				
Cigar (single)		300 MT-32	(300 MT-31 (not sealed) (300 MST-58T (sealed)	
Cigar - Packs	300 MST-52			
Cigar - Boxes	300 MST-52			(300 PT, dec- (orative wraps (and bands
OTHER TOBACCO PRODUCTS				
Smoking & Cigarette	300 MST-52		300 MST-51T	(Laminations (for pouches
Plug Chewing		300 MST-58T		
Snuff	300 MST-52		300 MST-51T	
CANDY				
Bars		300 PT		(300 MST-52 (when heat (seal or mois- (ture protec- (tion are (needed
Individually wrapped Pieces				
Cake Decorations		PT		
Caramels & Sticky Types		300 MT-36		
Cold Hard Type		300 MST-51		
Hot Hard Type		300 MT-35		
Lollipops		300 MST-53		

10/1/48

PRODUCT	PACKAGE OVERWRAP	DIRECT WRAP	BAG	OTHER APPLICATIONS
		CANDY (continued)		
Individually Wrapped Pieces (continued)				
Lozenges		300 MST-54		
Twist Wraps		300 MST-51		
Glace' Fruit & Nuts	MST-52			
Popcorn - Carmel, Etc.		300 MST-53	(dw 300 (MST-53	((use dw 300 (MST-57 when
Candied Puffed Cereals			(dw 300 (MST-53	(exposure is (humid for (periods
Peanuts - Choc. Coated			(dw 300 (MST-53	(over 1 (month
Brittle	300 MST-54			
Chewing Gum				
Ball		300 MST-51	MST-53	
Flat Packs		300 MST-50		
Stick - Single	300 MST-52	300 MST-52		
Stick - Pack of 5	300 MST-52			(Laminations (also used
Sugar Coated	300 MST-52			
Boxes & Tray Overwraps	PT			(MST-52 for (protection (and heat seal
Marshmallows	300 MST-56		300 MST-57	
Bagged Pieces			MST-53	
Hygroscopic Candies			(dw 300 (MST-57	

10/1/48

PRODUCT	PACKAGE OVERWRAP	DIRECT WRAP	BAG	OTHER APPLICATIONS
		BREAD & CAKE		
Standard or Specialty White Bread		300 MST-51		
Variety Breads				
Sugar Coated		300 MST-52		
Boston Brown Bread		300 MSAT-86	300 MSAT-86	
Sweet Doughs & Rolls		300 MSAT-52		
Plum Pudding		300 MSAT-86		
Doughnuts				
Chocolate Covered	300 PT	300 PT		
Glazed	300 PT	300 PT		
Plain	300 MST-52	300 MST-52		
Sugared	300 LST	300 LST		
Pies	PT	PT-62	PT-62	(Cream pies (not packaged
Muffins	300 MST-52	300 MST-52		
Cake	300 MST-52	300 MST-52		
Fruit Cake	300 MST-52	300 MST-54		
Zwieback - Melba Toast	300 MST-54			
Bread Crumbs	300 MST-54		MST-53	
		CRACKERS & BISCUITS		
Crackers & Pretzels	300 MST-54	MST-54	450 MST-53	
Cookies & Biscuits	300 MST-54	MST-54	(450 MST-53 or (dw 300 MST-53 (if sw is not (adequate for (protection or (durability	
Cracker Crumbs & Meal	300 MST-54		450 MST-53	
Peanut Butter Sanwiches		300 MST-54		

10/1/48

PRODUCT	PACKAGE OVERWRAP	DIRECT WRAP	BAG	OTHER APPLICATIONS
		MEAT (not frozen)		
Bacon	300 LSAT	300 LSAT		(PT-62 can be (used for ser- (vice selling
Frankfurters	300 LSAT	300 LSAT	LSAT	
Pork Skins (Fried)			(dw 300 (MST-54	
Fresh Meat				
Retail Cuts	MSAT-80	MSAT-80	MSAT-80	
Wholesale Cuts	MSAT-80	MSAT-80	MSAT-80	
Offal	LSAT	LSAT	LSAT	
Chili Con Carne	LSAT	LSAT	LSAT	
Sausage (Fresh)	300 LSAT	300 LSAT	(dw 300 (LSAT	
Smoked - Ham, Salami, Etc.	LSAT	LSAT	LSAT	(PT-62 & PRC can (be used for ser- (vice selling
Miscellaneous				
Corned Beef	LSAT	LSAT	LSAT	
Dried Beef	300 MST-54		MST-54	
Luncheon	300 LSAT	300 LSAT	300 LSAT	
Scrapple	300 LSAT	300 LSAT	300 LSAT	
Poultry - Fresh Or Defrosted	LSAT	LSAT	LSAT	
		NOODLES & MACARONI		
Stick Goods	300 MST-54	450 PT-62		
Other Paste Goods			450 MST-53	
Cut Goods	300 MST-54		450 MST-53	

10/1/48

PRODUCT	PACKAGE OVERWRAP	DIRECT WRAP	BAG	OTHER APPLICATIONS
TEA & COFFEE				
Tea	300 MST-52		300 MST-53	
Coffee, Beans, Grounds	300 MST-52		(450 MST-53 Use (MSAT-82 for (combination (bag with paper	
Soluble			None adequate	
CEREALS				
Uncooked	300 MST-54		(450 MST-53 (bag-in-box	
Flakes	300 MST-54		450 MST-53	
Puffed	300 MST-54		(dw 300 (MST-53	
Flour	300 MST-54			
Prepared Mixes	300 MST-54			
Rice	300 MST-52		(450 MST-53 (2-3 lb. (dw 300	(PT can be used (in low humidity (areas and must (be used on high (moisture content (rice
DRIED FRUIT				
Dates, Prunes, Raisins, Figs, Apricots, Etc.	300 MST-52	300 MST-54	450 MST-53	
Cocoanut	300 MST-52			
FROZEN FOODS				
Package Size:				
1 lb. or Less	300 Gauge	300 Gauge	300 Gauge	
Over 1 lb. to 5 lbs.	450 Gauge	450 Gauge	450 Gauge	300 bag-in-box
Approximately 10 lbs.	450 Gauge	450 Gauge		450 bag-in-box
20 lbs. to 40 lbs.				(Dry pack 450 (bag-in-box (Wet pack dw (300 bag-in-box

Note: 450 Gauge should be used on 1 lb. or less packages when greater durability is needed.

10/1/48.

PRODUCT	PACKAGE OVERWRAP	DIRECT WRAP	BAG	OTHER APPLICATIONS
FROZEN FOODS (continued)				
Citrus Juices			dw MSAT-83	
Eggs			MSAT-83	
Fish, Fillets, Steaks, Whole, Cooked, etc.	MSAT-87	(Printed (MSAT-87 (Unprinted (MAT-2	MSAT-87	(MT-35 in waxed (carton
Fruit - Dry Pack	MSAT-87		MSAT-87	(MST-53 bag-in-box
- Wet Pack	MSAT-87		MSAT-83	
Meat	MSAT-87	MSAT-87	MSAT-87	(MAT-2 for (unsealed liners
Poultry - Whole	MSAT-87	MSAT-87	MSAT-87	(for waxed car- (tons - all non-
- Cut Pieces	MSAT-87	MSAT-87	MSAT-87	(liquid foods (
Precooked	MSAT-87	MSAT-87	MSAT-83	(
Vegetables	MSAT-87		MSAT-87	(MST-53 bag-in-box
NUTS (except candy coated)				
Shelled - Salted	300 MST-54		(dw 300 (MST-53	
- Unsalted	300 MST-54		MST-53	
Unshelled	300 MST-54		450 MST-53	(Nuts must be dry (when packaged in (moistureproof (film
POPCORN & POTATO CHIPS				
Popcorn, Fried Cheese Coated, etc.			(dw 300 MST-54/ (300 MST-53	
Potato Chips & Sticks	300 MST-54		(dw 300 MST-54/ (300 MST-53 (dw 300 MSRC/ (300 MST-53	

Note: Unanchored films are not designed for wet conditions which may occur with all frozen foods. User should be advised of this limitation.

2/1/49

PRODUCT	PACKAGE OVERWRAP	DIRECT WRAP	BAG	OTHER APPLICATIONS
FRESH PRODUCE (retail store packaging)				
Berries				
Blackberries	300 LSAT*			(300 LSAT box top
Blueberries	300 LSAT*		450 LSAT*	(300 LSAT box top
Cherries	300 MSAT-86			(300 LSAT box top
Cranberries	300 LSAT*		450 LSAT*	(dw 300 LSAT for ("Transwrap" or (for "Stokeswrap"
Currants	300 LSAT*			(300 LSAT box top
Raspberries	300 LSAT*			(300 LSAT box top
Strawberries	300 LSAT*			(300 LSAT box top
Fruits				
Apples	300 LSAT		450 LSAT	
Apricots	300 LSAT*			
Avocados	100 CA-48	88 CA-48		
Bananas	300 LSAT*	300 LSAT*	450 LSAT*	300 PT band
Citrus				
Grapefruit	450 LSAT*		dw 450 LSAT*	
Lemons	300 LSAT*		450 LSAT*	100 CA-48*
Oranges	450 LSAT*		450 LSAT*	
Tangerines	450 LSAT*		450 LSAT*	
Grapes	300 MSAT-86		450 MSAT-86	
Melons		450 LSAT*	450 LSAT*	(300 LSAT - slices
Nectarines	300 LSAT*		450 LSAT*	
Peaches	300 LSAT*		450 LSAT*	
Pears	300 LSAT*		450 LSAT*	
Persimmons	300 LSAT*			

* Ventilated package

10/1/48

PRODUCT	PACKAGE OVERWRAP	DIRECT WRAP	BAG	OTHER APPLICATIONS
		FRESH PRODUCE (continued)		
Fruits (continued)				
Plums	300 LSAT*		450 LSAT*	
Rhubarb	300 LSAT*	300 LSAT*	450 LSAT*	
Vegetables				
Artichokes	300 LSAT*	300 LSAT*	450 LSAT*	
Asparagus	300 LSAT*	300 LSAT*	450 LSAT*	
Beets - Topped	300 LSAT*		450 LSAT*	
Broccoli	300 LSAT*		300 LSAT*	
Brussels Sprouts	300 LSAT*		450 LSAT*	
Cabbage	300 LSAT	300 LSAT	450 LSAT	
Carrots - Topped	300 LSAT		450 LSAT	
Cauliflower	300 LSAT*	300 LSAT*	450 LSAT*	
Cucumbers	300 LSAT*	300 LSAT*	450 LSAT*	
Celery	300 LSAT	450 LSAT	450 LSAT	
Corn on Cob	300 LSAT*	450 LSAT*	450 LSAT*	
Greens, Spinach, Etc.	300 LSAT*		450 LSAT*	
Green Beans, Waxed	300 LSAT		450 LSAT	
Lettuce	300 LSAT	300 LSAT	450 LSAT	
Lima Beans - Pod	300 LSAT*		450 LSAT*	
- Shelled	300 LSAT		300 LSAT	
Onions - Dry	300 LSAT*		450 LSAT*	
- Green	300 LSAT*		450 LSAT*	
Parsley	300 LSAT*		300 LSAT*	
Parsnips	300 LSAT*		450 LSAT*	

* Ventilated package

10/1/48

PRODUCT	PACKAGE OVERWRAP	DIRECT WRAP	BAG	OTHER APPLICATIONS
FRESH PRODUCE (continued)				
Vegetables (continued)				
Peas - Pod	300 LSAT*		450 LSAT*	
- Shelled	300 LSAT		300 LSAT	
Peppers	300 LSAT*		450 LSAT*	
Potatoes - White	450 LSAT*		450 LSAT*	PT window bag
- Sweet	450 LSAT*		450 LSAT*	
Radishes	300 LSAT*		300 LSAT*	
Salad Mix	300 MSAT-86		450 MSAT-86	
Shallots	300 LSAT*		450 LSAT*	
Tomatoes	300 LST*			100 CA-48*
Turnips - White	300 LSAT*		450 LSAT*	
*Ventilated package				
FOODS - UNCLASSIFIED				
Edible Oils				
Shortening, Lard	300 MST-52	300 MST-54		
Oleo	300 MST-52	300 MSAT-86		
Dehydrated Foods				
Vegetables, Soup Mix, Etc.	(dw 300 (MST-56		(dw 300 (MST-56	
Meat, Bouillon Cubes		(dw 300 (MST-56		
Eggs, Fruit	(dw 300 (MST-56			
Peanut Butter	300 MST-52			
Dairy Products				
Cheese				
Chantelle		300 MST-56		
Cottage & Hand		300 MSAT-86		

10/1/48

PRODUCT	PACKAGE OVERWRAP	DIRECT WRAP	BAG	OTHER APPLICATIONS
Dairy Products (continued)				
Cheese (continued)				
Edam, Gouda		450 PC Red		
Grated			300 MST-54	
Liederkrantz	88 CA-48			
Limburger	88 CA-48			
Parmesan			300 MST-54	
Roquefort		300 MSAT-86		
Store Cuts, Natural Processed, Swiss		300 MST-52		(300 MSAT-86 for (damp conditions (or printed film
Butter	300 MSAT-86			
Dried Vegetables & Grains				
Beans, Lentils, Peas, Corn, etc.	300 MST-52		(450 MST-53 (2-3 lb. (dw 300	(PT can be used in (low humidity areas (and must be used (on high moisture (content vegetables
Dog Food, Biscuits, Pellets	300 MST-52		(dw 300 (MST-53	
Delicatessen				
Salads	300 MSAT-86		300 MSAT-86	
Sandwiches	300 MST-52		300 MST-52	
Fish				
Fresh (Dressed)	300 LSAT	300 LSAT		
(Round)	300 LSAT	450 LSAT	450 LSAT	
(Shell)			450 LSAT	
Salted	100 CA-48	100 CA-48		
Smoked, Halibut, Herring, Cod		300 MST-52	450 MST-53	
Salmon			(dw 300 (MST-57	

10/1/48

PRODUCT	PACKAGE OVERWRAP	DIRECT WRAP	BAG	OTHER APPLICATIONS
Sugar				
Cane	300 MST-52		MST-53	
Maple	300 LSAT			
Flavorings, Spices Condiments	300 MST-52		300 MST-54	
Wine & Liquor Bottles		300 PT-62		CA-48
Bottles, Jars, Cans		300 PT-62		CA-48
		TEXTILES		
Laundry, Dry Cleaning		300 MST	450 MST-53	Also PT types
Narrow Fabrics, Tape	300 PUT-70	300 MST-54		
Handkerchiefs - Gauze	300 MST-52	300 MST-54		
Pillow Cases	450 MST-54	450 MST-54		
Sheets	450 MST-54	450 MST-54		
Shirts & Pajamas		450 MST-54	450 MST-54	
Towels	450 MST-52	450 MST-54	450 MST-54	
Underwear, Infants' Wear	300 MST-52	450 MST-54	450 MST-54	
Garters, Suspenders, Laces	300 MST-52			
Coated Fabrics		450 PT-62		
Blankets		600 MST		
Bolt Goods		450 MST-54		

Note: Use PT-62 on fabrics carrying finishes which affect the surface of MST.

	HOSIERY		
450 MST-54	300 PT-62	450 PT-62	(Bands, Folders, " (Flyleaves - 300 (PHT

2/1/49

PRODUCT	PACKAGE OVERWRAP	DIRECT WRAP	BAG	OTHER APPLICATIONS
		DRUGS		
Cough Drops	300 MST-52		300 MST-53	
Bottle Wraps		300 PT		CA-48
Pills				
Hygroscopic (Vitamin, Etc.)	300 MST-56	(dw 300 (MST-56	(dw 300 (MST-57	(Laminations are (needed for pills (such as Alka- (Seltzer
Tablets	300 MST-52		300 MST-53	(Use ~~MBAT-86~~ for (humid climates
		RUBBER GOODS		
General				
Combs, Ice Bags, Nipples, Neoprene Etc.	300 MST-52		300 MST-53	300 MSRC
Tire Patches			(dw 300 (MST-56	
Tire Winding		450 PT		
Rollers		300 PT		
		PAPER PRODUCTS		
General				
Confetti			300 MST-52	
Doilies	300 MST-52			CA-48
Tissue	300 MST-54	300 MST-54		CA-48
Napkins	300 MST-54	450 MST-54		^
Plates & Cups		450 PT		(PT-62 for wet (wraps
Books		450 MST-54		
Stationery, Cards	300 MST-52	450 MST-54		CA-48

10/1/48

PRODUCT	PACKAGE OVERWRAP	DIRECT WRAP	BAG	OTHER APPLICATIONS
		MISCELLANEOUS - UNCLASSIFIED		
Notions, Novelties, Wood Products	300 MST-52	300 MST-52	300 MST-53	(PT if not heat (sealed
Metal Specialties				
Corrosion Resistant		450 MST-54G		
Chromium Plated		450 PT-62	450 PT-62	Do not use MST
Other	300 MST-52	MST-52	MST-53	(PT if not heat (sealed
Caulking Compound, Cements	300 MST-52		(dw 300 (MST-53	(MSAT, damp (product
Chemicals				(Refer to (Technical (Service
Camphor		300 MST-52		
Brushes	300 MST-52	300 MST-52	300 MST-53	
String & Twine	300 MST-52	300 MST-52		
Candles & Wax Prod.		CA-48		
Flowers				
Cut Blooms	300 MSAT-86		300 MSAT-86	(MST, LST for (roll wrap
Wreaths, Plants, Etc.		450 LSAT	450 LSAT	
Bulbs	300 LSAT*		300 LSAT*	*Ventilated
Seeds	300 MST-52		300 MST-53	
Bowl Covers		450 PT-62	450 PT-62	
Dyes	300 MST-56		300 MST-56	
Sponges	300 MST-52	300 MST-52		
Jewelry, Glassware	300 MST-52	300 PT		
Photographic Film	300 MST-52	300 MST-54		
Paradichlorobenzene	300 MST-52	300 MST-52	300 MST-53	PT if perfumed

10/1/48

PRODUCT	PACKAGE OVERWRAP	DIRECT WRAP	BAG	OTHER APPLICATIONS
MISCELLANEOUS - UNCLASSIFIED (continued)				
Laundry Starch	300 MST-52			
Electrical Acc. As Lamp Bulbs, Fuses, Etc.	300 MST-52	300 MST-52	300 MST-53	
Leather Products	300 MST-52	300 MST-52	450 MST-54	
Cleaning Materials				
Brooms, Mops		450 MST-54		
Polishes	300 MST-52			
Plastic Products	300 MST-52	300 PT		
Tile		300 PT		300 MT-21, 35
Razor Blades	300 PT			
Sets	300 MST-52			
Sanitary Products	300 MST-52	300 MST-52		
PERFUME - SOAP				
Bottle Wraps		300 PT		(Also PRC, (CA-48
Deodorant				
Not Perfumed		300 MST-52	450 MST-52	
Perfumed		300 PT	dw 300 PT	
Cosmetics	300 MST-52			
Soap				
Dry Cake	300 MST-52	300 MST-52		
Wet Cake		300 PT		
Tar Cake		300 MSAT-86		
Flakes, Powder, Etc.			450 MST-54	

10/1/48

No. 409

CELLOPHANE SALES BY TRADE CLASS (POUNDS)

(000's OMITTED)

	YEAR 1949				YEAR '49 VS. YEAR '48		YEAR 1948			
	DIRECT & JOBBERS	INDIRECT	TOTAL	% OF TOTAL SALES	CHANGE	% CHANGE	DIRECT & JOBBERS	INDIRECT	TOTAL	% OF TOTAL SALES
TOBACCO										
Cigarettes	19,740	844	20,584	11.6	- 1,650	- 7.4	21,400	834	22,234	13.9
Cigars	2,816	379	3,195	1.8	+ 72	+ 2.3	2,781	342	3,123	1.9
Tobacco	795	862	1,657	0.9	+ 272	+ 19.6	792	593	1,385	0.9
Total	23,351	2,085	25,436	14.3	- 1,306	- 4.9	24,973	1,769	26,742	16.7
FOOD PRODUCTS										
Candy & Gum	8,679	8,375	17,054	9.6	+ 1,645	+ 10.7	8,288	7,165	15,409	9.6
Bread & Cake	32,853	7,628	40,081	22.6	+ 4,742	+ 13.4	29,221	6,118	35,339	22.0
Crackers & Biscuits	10,021	2,593	12,614	7.1	+ 1,184	+ 10.4	7,480	3,950	11,430	7.1
Meat	6,556	5,040	11,596	6.5	+ 5,055	+ 77.3	3,570	2,971	6,541	4.1
Noodles & Macaroni	466	2,136	2,602	1.5	+ 195	+ 8.1	565	1,842	2,407	1.5
Tea & Coffee	1,029	351	1,380	0.8	+ 132	+ 10.6	903	345	1,248	0.8
Cereals	1,772	714	2,487	1.4	+ 865	+ 53.3	1,397	225	1,622	1.0
Frozen Foods	1,876	3,358	5,234	2.9	+ 777	+ 17.4	1,857	2,600	4,457	2.8
Dried Fruit	210	123	333	0.2	- 3	- 0.9	227	109	336	0.2
Nuts	1,212	1,734	2,946	1.7	+ 281	+ 10.5	1,023	1,642	2,665	1.7
Popcorn & Potato Chips	3,165	3,764	6,929	3.9	+ 2,409	+ 53.3	1,386	2,534	3,920	2.5
Dairy Products	-	3,703	3,808	2.1	+ 323	+ 9.3	-	3,485	3,485	2.2
Fresh Produce	1,481	3,151	4,564	2.6	+ 529	+ 13.1	1,156	2,879	4,035	2.5
Unclassified Foods	2,204	6,446	8,750	4.9	+ 910	+ 11.6	2,074	5,766	7,840	4.9
Total	73,113	49,221	120,478	67.7	+19,044	+ 18.8	59,703	41,631	101,334	63.2
MISCELLANEOUS										
Hosiery	92	1,278	1,370	0.7	+ 184	+ 15.6	110	1,075	1,185	0.7
Textiles	1,803	1,333	3,181	1.8	+ 822	+ 35.4	1,332	987	2,319	1.4
Drugs	732	299	1,011	0.6	- 53	- 4.9	732	352	1,084	0.7
Rubber	183	134	317	0.2	- 158	- 33.3	221	254	475	0.3
Paper	2,090	646	2,736	1.5	+ 772	+ 39.3	1,310	654	1,964	1.2
Unclassified	2,307	*16,295	18,602	10.5	- 456	- 2.4	1,363	*17,195	18,058	11.9
Total	7,207	19,990	27,197	15.3	+ 1,112	+ 4.3	5,568	20,517	26,085	16.2
DOMESTIC TOTAL	101,715	71,296	173,011	97.3	+18,850	+ 12.2	90,244	63,917	154,161	96.1
% OF TOTAL	58.8	41.2	100.0				58.5	41.5	100.0	
EXPORT	4,820	-	4,820	2.7	- 1,464	- 23.3	6,284	-	6,284	3.9
GRAND TOTAL	106,535	71,296	177,831	100.0	+17,186	+ 10.8	96,528	63,917	160,445	100.0

*Includes Industrial Users, Fabricators, Converter Sales to Jobbers and Miscellaneous.

DISTRIBUTION

	Year '49	Year '48
Direct Ex-Tobacco	42.7%	39.7%
Direct Tobacco	13.1	15.6
Total Direct	55.8	55.3
Jobbers	2.4	1.0
Dairy Jobbers	0.6	0.6
Converters	35.9	33.6
Fabricators	3.1	4.8
Industrial Users	0.5	0.8
Export	2.7	3.9
	100.0%	100.0%

8/9/50
W. L. Lorton

[4937-809]

Defendant's Exhibit No. 410

DU PONT

DU PONT CELLOPHANE COMPANY, INC.

~~NEW YORK~~

Los Angeles, California.
February 28th, 1936.

TO: O. F. BENZ
C. F. BROWN

ATT: ~~W. A. WENDLER~~ - A. F. WENDLER

FROM: W. L. HALL

Subject: SIMPLEX MACHINE COMPANY
SAN FRANCISCO, CALIFORNIA.

Talked to ~~Cranbert~~ Gaubert of subject concern today over the telephone.

He advises that he has now perfected his bag making machine using heat sealing Cellophane, heat seal only, for the making of square bottom bags.

The original machine for a "folded over" bottom bag sold for around $500.00. The square bottom attachment he tells me is $50.00 extra.

In addition he advises that he has also perfected a sheet cutting machine which delivers a cut sheet from roll stock to the operators hand as it is needed for placement on the machine. This attachment he says is $125.00 extra.

Does not have any of the new machines here but advises that there are two of the sheeter, square bottom type in use in San Francisco.

Yesterday I talked to Mr. Kettler, Continental Baking Company head cake man on the Coast. He has three of the bag making machines in operation and is very much pleased with them. Says they have cut his bag costs in half and even to 45% in some cases.

M1308

db

* San Francisco, Los Angeles, and Seattle.

PHANE IS A REGISTERED TRADE MARK AND SHOULD BE SPELLED WITH A CAPITAL "C" OR ENCLOSED IN QUOTATION MARKS

Defendant's Exhibit No. 411

ZELLERBACH PAPER COMPANY

DIVISION OF CROWN ZELLERBACH CORPORATION

EXECUTIVE HEADQUARTERS
534 BATTERY STREET
SAN FRANCISCO

TEL EXBROOK 1631

June 19, 1936
Friday.

DuPont Cellophane Co.
Mr. R. C. Russell
350 Fifth Avenue
New York, N.Y.

Gentlemen:

On Thursday of this week I spent the entire morning with Mr. Gaubert of the Simplex Wrapping Machine Company in Oakland.

He had one of his new bag making machines operating and also the first of the new (crinkle pie) wrapping machines. Both of these machines are very clever and I believe will be of interest and value to a great many Cellophane customers. He is building a large majority of the bag making machines at the present time and is selling quite a few of them on the Pacific Coast; however, the round cake wrapping machine is not yet in production and from his limited capacity it will probably be some little time before he has very many of these on the market.

From watching this machine operate, however, I think it has wonderful possibilities for practically every baker on your list inasmuch as the machine will handle sweet doughs, cakes, or any round object up to 9" in diameter and 4" in height. This takes in practically all of the round sweet doughs and round cakes on the market at the present time.

He expects his price to be around $325.00 each for the semi-automatic machine, which is certainly very reasonable.

He wrapped a sweet dough on the machine for me the other day and it certainly has a very nice appearance. I gave him the additional thought that a sheet of M.S.C. colored Cellophane for the bottom disc would be an excellent way of making a very attractive package. I have requested Mr. Pickering to send me some samples of colored M.S.C. sheets to try out.

As you probably have been advised by Mr. Gaubert, he intends to have both of these machines at the bakers' convention in Atlantic City in September. He plans on being back there himself and he is interested in contacting you when he is in the east. Mr. Gaubert is one of the cleverest inventors and mechanics I have run across but his production

M1389

activities very materially limit his time for selling these machines. It is my thought that after you have had a chance of looking these machines over and have decided on their merit that it would be possible for you to give Mr. Gaubert some assistance in making the proper sales outlet connections in the east which will be of the most benefit to both Mr. Gaubert and yourselves.

I have told Mr. Gaubert that I would write to you, outlining his need of a good sales connection in the east and when he calls on you in New York about the time of the bakers' convention I will appreciate it very much if you will give him whatever assistance you can.

Yours very truly,

W. L. Hall

Hdqtrs. Cellophane Sales Dept.

ZPCO:HDQTRS
W L Hall:MD

M1309

Defendant's Exhibit No. 412

DU PONT

DU PONT CELLOPHANE COMPANY, INC.

NEW YORK, N. Y. December 21, 1936

TO: A. F. WENDLER, M.S.S.S.

FOR: R. C. RUSSELL

FROM: C. F. BROWN, G.A.D.S.

SUBJECT: SIMPLEX BAG MAKING MACHINE

Our policy towards promoting the use of this machine will be as follows:

1. A regular page for the machine hand book should be issued and sent to the men without comment.

2. We should cooperate with the Simplex Machine Company as far as possible to help them, not only from a technical standpoint, but in any way that we might be useful to them in establishing Middle Western and Eastern connections for the sale of their machine, etc.

CFB:md

file in Simplex folder

M1310

"Cellophane" is a registered trade mark and should be spelled with a capital "C" or enclosed in quotation marks.

Defendant's Exhibit No. 413

SPECIAL TRADE REPORT

AFB

Section Sales Service-Engr.

By J. A. Schaeffler Date 12/8/38 No. 128

Firm Amsco Packaging Machinery Inc. Machinery

St. and No. 31-31 48 Avenue Incorporated Long Island City, New York

Int'v'd. and Titles P. K. Keenan President B. Wessner-Secretary

Subject: Machine Company call

Date of Last Call	Date Received	Date Typed
	12/12/38	12/12/38 ar

(Answer each question numerically below)

1. Report of interview.
2. What action is to be taken on results of this call?
3. [illegible]
4. [illegible]

1. Discussed recent improvements and additions to the line of equipment which they are handling. Miller have recently developed a band attachment which can be added to any of their present models for $195. A narrow printed band of either paper or "Cellophane" is adherred to the sheet in the roll feed cut-off. Bands are either pre coated with thermoplastic cement or an adhesive may be applied along each edge of the band. Drake have adopted this set up with printed waxed band about ½ inch wide.
The Simplex bag machine has been substantially improved in design, largely because of our efforts. A new attachment will be available shortly to spot labels on the sheet prior to making the bag. The label, preferably a small sheet of printed "Cellophane" cut from roll stock can be registered in any desired position giving the appearance of a printed bag. The attachment will cost approximately $250.
Amsco have developed a rotary crimper which appears to overcome practically all the past weaknesses of this type of equipment. It is an excellently designed machine capable of sealing 320 linear inches a minute. Cost will be approximately

Defendant's Exhibit No. 1118

BULLETIN

H. J. FISEMAN

INFORMATION BULLETIN NO. 72-MM

JULY 22, 1937

TRANSWRAP PACKAGING MACHINE

STOKES & SMITH COMPANY, A WELL KNOWN AND SUBSTANTIAL ORGANIZATION, HAVE TAKEN OVER THE MANUFACTURE AND SALE OF THE TRANSWRAP PACKAGING MACHINE FROM THE TRANSPARENT WRAP MACHINE COMPANY OF NEW YORK CITY.

THERE WILL BE NO CHANGES AT THE PRESENT TIME TO PAGE F-1-A IN THE MACHINE INFORMATION BOOK [illegible] THE NAME [illegible] THE NEW SOURCE OF SUPPLY FOR THE TRANSWRAP MACHINE. WE SUGGEST YOU ENTER THE NAME AND ADDRESS AS GIVEN BELOW IN YOUR OWN BOOK; ALSO IN INDEX NUMBER 1 WHICH LISTS THE MACHINE MANUFACTURERS. IN ADDITION, NOTE THE NAME OF THE STOKES & SMITH REPRESENTATIVE, OR REPRESENTATIVES IN WHOM YOU WOULD BE INTERESTED BASED ON THEIR GEOGRAPHICAL LOCATION.

SEE BELOW THE LIST OF REPRESENTATIVES WHO WILL HANDLE THE TRANSWRAP PACKAGING MACHINE. IT WILL BE PROFITABLE FOR YOU TO CULTIVATE THE ACQUAINTANCE OF THEIR REPRESENTATIVES IN YOUR TERRITORY.

STOKES & SMITH COMPANY HAVE ALWAYS OPERATED IN A RATHER CONSERVATIVE MANNER, AND YOU SHOULD DO A REAL SELLING JOB ON THEIR SALES REPRESENTATIVES. UNDOUBTEDLY, THEY WILL APPRECIATE ANY ASSISTANCE YOU CAN OFFER AS THEY ARE RECOMMENDING ONLY THE USE OF "CELLOPHANE" CELLULOSE FILM FOR USE ON THE TRANSWRAP PACKAGING MACHINE. REMEMBER, THIS IS A NEW DIRECTION OF WORK - SO DO NOT EXPECT TOO MUCH OF THEM AT THE START.

DO YOUR BEST TO JUSTIFY A CONTINUATION OF THIS COOPERATION IN YOUR TERRITORY AND GENERALLY, INSOFAR AS THESE FIELD MEN ARE CONCERNED, YOU ARE THE DU PONT ORGANIZATION AND WE WANT THEM TO THINK FAVORABLY OF US.

SUMMERDALE AVE. NEAR ROOSEVELT
BLVD., PHILADELPHIA, PENNSYLVANIA.
STOKES & SMITH COMPANY,
D. E. MAXFIELD, GENERAL MANAGER.
C. E. SCHAEFFER, SALES MANAGER.
LEON G. SMITH
PAUL HAGEN, SPECIAL REPRESENTATIVES.

M1312

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

"CELLOPHANE" DIVISION

NEW YORK, N. Y.
W. B. SANFORD,
ROOM 426, CHANIN BUILDING,
122 EAST 42ND STREET.

BOSTON, MASSACHUSETTS.
A. S. JEWETT,
172 MILK STREET.

ROCHESTER, BUFFALO AND
SURROUNDING TERRITORIES.
H. E. COLBURN,
P. O. BOX 462,
ROCHESTER, NEW YORK.

ST. LOUIS, KANSAS, OKLAHOMA,
MEMPHIS, TENNESSEE, LOUISIANA,
TEXAS AND ARKANSAS.
A. F. YOTT,
472 PAUL BROWN BUILDING,
NINTH & OLIVE STREETS,
ST. LOUIS, MISSOURI.

CHICAGO, ILLINOIS, MILWAUKEE &
POINTS WITHIN 50 MILE RADIUS.
BUNN PACKAGING MACHINERY COMPANY,
76TH STREET & VINCENNES AVENUE,
CHICAGO, ILLINOIS.

SAN FRANCISCO, CALIFORNIA.
MAILLER SEARLES, INC.,
300 SEVENTH STREET.

LOS ANGELES, CALIFORNIA.
MAILLER SEARLES, INC.,
420 SOUTH SAN PEDRO STREET.

SEATTLE, WASHINGTON.
MAILLER SEARLES, INC.,
909 WESTERN AVENUE.

PORTLAND, OREGON.
MAILLER SEARLES, INC.,
315 S. W. PINE STREET.

M1312

C. F. BROWN,
G. A. D. S.

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

"CELLOPHANE" DIVISION

Defendant's Exhibit No. 415

ANDERSON'S WHOLE GRAIN PRODUCTS

165 COLTON AVE.

LOMA LINDA, CALIFORNIA.

January 5, 1939

R. C. Russell, Manager
Engineering Service
E. I. Duront De Nemours & Co.
Wilmington, Delaware

Dear Mr. Russell:

We are hereby sending you photos and detail cuts of working parts of our cellophane bag making machine.

The bag is entirely heat sealed (thermostaticly controlled) thus eliminating all glues.

The set of gears shown in photo #1 will give any length of bag from 3 in. to 19 in. in ¼ in. divisions. Finer adjustments are taken care of by adjusting tension between the rubber draw tolls, by means of the lever shown on side of machine just back of switches. The other little lever shown is for lifting the seam heater off the seam when machine is not running.

Please note that we can make double bags, flat bags, and square bags. The small Barker bag is the smallest one we have made to date. Nine inches is the maximum width of bag for this particular machine.

We now have the mechanical end worked out to the place where I think there will be very few changes necessary for some time to come. The outside appearance, however, will change until we have a cabinet appearance with pressed steel sides, and storage space inside for gears and forms. We are also endeavoring to eliminate weight so that two men can handle it. By installing a double cutter head we can run the shorter bags at 10,000 to 12,000 per hour.

Very truly yours,

Edw. E. Anderson

168
2/10000

7½ ¢
12/90
M

ANS. - FILE
JAN 10 1940
R. C. RUSSELL

M1313

Defendant's Exhibit No. 416

CC: R. E. Henning - Los Angeles

January 10th, 1940.

AIR MAIL

Mr. Edward E. Anderson,
ANDERSON'S WHOLE GRAIN PRODUCTS,
165 Colton Avenue,
Loma Linda, California.

Dear Mr. Anderson:

We sincerely appreciate your letter of January 5th enclosing the excellent description of your bag making machine and the selection of bags.

It appears you have been quite successful in developing this piece of equipment for a close examination of the "Cellophane" does not disclose any serious damage to the "Cellophane" sometimes caused by poorly-designed formers and sometimes by formers which are entirely too abrupt, thus causing excessive tension as the web of "Cellophane" is being pulled through the machine.

The design of your bottom sealing mechanism seems to be particularly novel, particularly for heat-sealed bags. Possibly you may be able to improve somewhat on the strength of the seal, particularly on the double walled bags and the bags with continuous printing, by substituting some sort of a crimping sealer instead of the flat plates used at present. We mention this because the seals did not seem particularly strong in these two cases in comparison with the unprinted single walled bags.

If you are now ready to promote and sell this equipment, we would appreciate further details on price and terms at your earliest convenience. Also, as soon as you have descriptive circulars available, we would appreciate a supply, approximately 100, to distribute to our salesmen and interested prospects.

M1314

Edward E. Anderson
concluded

Rest assured we will cooperate with you in every possible way for our mutual benefit and for the benefit of our customers using "Cellophane".

Very truly yours,

Ralph C. Russell, Manager
ENGINEERING SERVICE.

RCR:P

M1314

Defendant's Exhibit No. 417

MARK H. CORLEY, PRESIDENT
JOHN P. CORLEY, VICE PRESIDENT

"MILLER" AND "CORLEY-MILLER"
PACKAGING MACHINES

MILLER WRAPPING AND SEALING MACHINE COMPANY

Modern wrapping machines for up-to-date packages

CABLE CODE "MILWRAPCO" TELEPHONE RANDOLPH 1883-4

18 SOUTH CLINTON STREET
CHICAGO

June 25, 1940

our files
if we do not have
circulars - write for
100 from Simplex

Mr. Ralph Russell,
E. I. du Pont de Nemours & Co
"Cellophane Division"
Wilmington, Delaware

Dear Russ:

It was a pleasure to see you again the other day and I hope your jaunts to Minneapolis and Texas were successful.

Since you indicated you do not yet have information on the Simplex Automatic Hi-Speed Bag Maker, the following outline should help a little:

SPEED ... 40 to 65 bags per minute

MATERIALS ... MST Cellophane, Maralux, Diafane

ADJUSTMENTS ... for bags 1½ to 9" wide, up to 16" long
(Also, up to 20" long, extra)

KINDS ... flat or gusset style, single or double wall.

PRICE ... $1000.00 (approximate, base)

Features not included in the base price are sizing plates (a sizing plate is necessary for each width bag), duplex attachment for double bags, electric eye for spot printed stock ($325.00).

The new Simplex is light and compact in its construction. It weighs only 700 lbs and takes a space 63" long, 35" wide, and stands 47" high.

I hope this information fills the bill. If you want additional details of any kind, just say the word and we will see that you are supplied.

With best wishes,

Very truly yours,

MILLER WRAPPING & SEALING MACHINE COMPANY

R. H. Freeman

R. H. FREEMAN:ACP Sales Manager.

M1315

PACKAGING MACHINES FOR
WRAPPING SEALING • SHEETING BANDING • BUNDLING BAG MAKING • BAG FILLING BAG CLOSING • HEAT AND GLUE CRIMPING

Defendant's Exhibit No. 418

TECHNICAL INFORMATION

BULLETIN NO. 42

June 3, 1946.

SIMPLEX BAG MACHINE

Attached is the latest information put out by the Simplex Wrapping Machine Company describing their Bag Machine for producing bags from heat sealing materials, especially Cellophane.

Note this machine now offers electric eye registration for use of printed and registered film, or a label spotting attachment, either heat sealed or glued, or heat seal banding attachment. It also offers either the folded bottom for maximum strength, or crimp sealed bottom for leakproof construction.

W. G. Hunter, Manager,
TECHNICAL SERVICE.

tg
Attachment: Simplex Circular

A new attachment will be available shortly to spot labels on the sheet prior to making the bag. The label, preferably a small sheet of printed "Cellophane" cut from roll stock can be registered in any desired position giving the appearance of a printed bag. The attachment will cost approximately $250.
Amsco have developed a rotary crimper which appears to overcome practically all the past weaknesses of this type of equipment. It is an excellently designed machine capable of sealing 320 linear inches a minute. Cost will be approximately $225 but extra equipment will be available such as plough to turn over top of bag, conveyor to automatically carry bags through crimper and at our suggestion a special set-up to handle P. T. bags. They also have developed a small foot pedal operated crimper which will sell for $80. Suggested floating top crimp jaw to get uniform pressure. Also change design of crimp dies on both machines to give radius on top and bottom of each tooth or rib. This will give stronger seal and will not tend to cut through the film, thus embrittling it. All suggestions gratefully accepted and will be put into effect immediately. Circulars will be issued shortly.
Upon discussing recent lack of our film for demonstration work Mr. Keenan assured us he felt very badly. He admitted that they have not checked their sample stock closely but agreed to do this weekly. He expressed his appreciation for our cooperation, stating that 80% of their activities are with our organization, the other 20% with our competitors and convertors. They will advise us whenever they need samples and we will furnish small O. D. rolls.

2. A close follow-up will be maintained on all of above. Circulars will be sent us as soon as available. Also a line of samples illustrating both printed paper and "Cellophane" bands on bakery products has been promised. This band proposition has possibilities.

3. None.

4. Copies to C. F. Brown
A. F. Wendler
R. C. Russell - A. P. Baldwin.

M1311

Defendant's Exhibit No. 419

R-12315

DU PONT

Cellophane

TRADE REPORT

(Trade Analysis Copy)

[redacted]

Salesman F. W. Tranfield Date 1/18/39 No. 34

Firm THE GREAT A & P TEA CO. Bus. Grocers Class 1-24

St. & No. 420 Lexington Avenue City N.Y.C. State N.Y.

Controlled by: Above

Final Decision by (Titles) Committee Contacted on this call? No

Buyer M.B.Schilling, Buyer, D.H.Gluck, GPA Contacted on this call? No

Others Contacted this call (Titles) E. J. Donahue, Engineering Dept.

Changes in Mailing List?

JAN 26 1939

Type of Call—Productive X Service Comp.

Sources of Supply	Est. Cons.-lbs. this Calendar Quarter	If using competitive material, state type and reasons
Du Pont		
Sylvania	See office forecast.	
Milprint		
Royal		

Items wrapped in transparent sheeting: Food products.

Other products on which Cellophane could be used: (Note new products in work) Food products

a. Specify sales tools used—below:	d. Agreement account? yes
b. Latest success story—below:	e. Did you secure order? placed
c. Service and general remarks—below:	

They have been recently considering means of cutting down their transparent bag costs in the Grocery Division and have investigated to some lengths the possibility of setting up, at their Brooklyn warehouse, "Cellophane" bag macking machines. In this direction they have investigated the following:

Date of last Prod. Call	Rec'd at District Office	Date Typed	Copies for
See JCI's file	1/20/39	1/24/39-h	

CREATIVE WORK DONE

1. New items on market since last call or order placed—distribution, potential.
2. Result of suggestions made on previous call
3. Creative suggestions to extend use of Cellophane made on this call and customer's promised action?
4. [illegible]

RETAIL STORE SURVEY

When you used in your interview information developed by your survey of retail stores, give the facts briefly under question 3. Information affecting products in other territories should be reported below.

* * * *

When requesting Package and/or Machine Developments, supply complete information as given below under Question No. 5.

PACKAGE DEVELOPMENT REQUEST

1. Product?
2. Date wanted?
3. Retail Price?
4. When will samples be sent?
5. Description of development desired: type of wrap, label, containers, etc.
6. Type of Cellophane?
7. Machine wrapped?
8. Return direct to account? If to you, where?

MACHINE DEVELOPMENT REQUEST

1. Product?
2. Samples? (If no samples give sketch and complete overall dimensions of each size.)
3. "Cellophane"? Weight, color, type
4. Daily production each size?
5. Yearly production each size?
6. Is production seasonal?
7. Average retail price each size?
8. Are wrapping machines now used?
9. Name of manufacturers?
10. Machine model and number?
11. If new machines required, shall machine manufacturers salesmen call?

would soon be liquidated. Also, in the course of the conversation learned they bind machine companies so close on contracts as to operation and delivery of units per minute that all the bag making machine houses will not quote by letter and Mr. Donahue is evidently having a hard time getting these houses to work intelligently with them.

They did not know of Automat and will investigate immediately calling us in at a later date to report the results.

SALES SERVICE SECTION NOTE:

What recommendation can you make on 1/2# and 1" and 2# "Cellophane" bag making machines - what is your opinion of Automat Molding & Folding Company's equipment and will it handle satisfactory 300 MST or 450 MST (special bag stocks) for free flowing materials? The turnover period of dried vegetables, peas, beans, etc. is maximum 3 days - is it therefore safe to work with 300 MST special film only?

General Sales

Defendant's Exhibit No. 420

B-12915

DUPONT

Cellophane

TRADE REPORT

(Trade Analysis Copy)

SALES COR.	CONV. SECT.
PROM. SECT.	PROD. DEV.
SALES SERV.	SERVICE SECT.
ADV. SECT.	PLANNING

Salesman F. W. Tranfield Date 4/12/39 No. 191

Firm GREAT A & P TEA COMPANY (Quaker Maid Division) Bus. Grocers Class 1-24

St. & No. 420 Lexington Avenue City N.Y.C. State N.Y.

Controlled by:

Final Decision by (Title) Committee Contacted on this call? Goulding

Buyer M. B. Schilling Contacted on this call? No

Others Contacted this call (Titles) D. H. Goulding, Mgr., Quaker Maid Division

Changes in Mailing List? Miss Martin- Asst. to Goulding-

Type of Call—Productive X Service Comp.

Sources of Supply	Rct. Conn.-Ibs. this Calendar Quarter	If using competitive material, state type and reasons
Du Pont		Pollock.
Sylvania	C	
Milprint	A	See office forecast.
Royal (Oneida-Union)		

Items wrapped in transparent sheeting:

Food products.

Other products on which Cellophane could be used: (Note new products in work)

Food products.

a. Specify sales tools used—below:	d. Agreement account? yes
b. Latest success story—below:	e. Did you secure order? placed
c. Service and general remarks—below:	

After several months of effort we were fortunate in being able to arrange a showing of "Lady Who Couldn't Say No" film before the Quaker Maid Div. of subject company. We had hoped to bring in the Bakery Department and also the Purchasing Div., but due to several of their officials being out

Date of last Prod. Call	Rec'd at District Office	Date Typed	Copies for
3/22/39	4/18/39	4/19/39-H	

CREATIVE WORK DONE

1. New items on market since last call or order placed—distribution, potential.
2. Result of suggestions made on previous calls.
3. Creative suggestions to extend use of Cellophane made on this call and customer's promised action?
4. What is your plan for next call?
5. What assistance can organization give you? (See back of report)

Couldn't Say No" film before the Quaker Maid Div. of subject company. We had hoped to bring in the Bakery Department and also the Purchasing Div., but due to several of their officials being out

Date of last Prod. Call	Rec'd at District Office	Date Typed	Copies for
3/22/39	4/18/39	4/19/39-H	

CREATIVE WORK DONE

1. New items on market since last call or order placed—distribution, potential.
2. Result of suggestions made on previous calls.
3. Creative suggestions to extend use of Cellophane made on this call and customer's promised action?
4. What is your plan for next call?
5. What assistance can organization give you? (See back of report)

it was arranged to show the films to them at a later date.

With full knowledge that the Quaker Maid Division do not encourage outside cooperation, either in the development of their product or in the acceptance of any merchandising suggestions, we were forced to first build up their acceptance of our offering by using food and candy items in "Cellophane" and selected pieces of advertising material to round out the picture. The film was received with enthusiasm and many of the officials who witnessed it made notes. After the showing Mr. Goulding led the discussion covering first the candy field and then the broader use of Cellophane bags for the packaging of staple grocery items.

---

1. [illegible] None.

3. Chocolate Bar Goods - overwrapped in printed "Cellophane". Again reviewed chocolate bar survey covering points of greater appetite appeal and display value with sample sheets of printed "Cellophane" wrapped several bars for their inspection suggested they conduct a sales test in local A & P super market outlets.

   R) Mr. Goulding is favorable towards the use of "Cellophane" but the store managers are demanding larger bars than they have sold heretofore and therefore the "Cellophane" cost may prohibit its use. Will go into the matter further and will work towards a designed sketch from Milprint.

M1318

OVER

Defendant's Exhibit No. 421

B-12815

DUPONT

Cellophane

TRADE REPORT

(Trade Analysis Copy)

		CO.	
PROM. SECT.		PROD. DEV.	
SALES SERV.		SERVICE SECT.	
ADV. SECT.		PLANNING	

Salesman Tranfield Date 8/14/39 No. 392

Firm THE GREAT A AND P CO. (Quaker Maid Div.) Bus. Grocers Class 1-12

St. & No. ~~420 Lexington Ave.~~ City NYC State NY

Controlled by:

Final Decision by (Title) Committee Contacted on this call? Goulding

Buyer M. B. Schilling Contacted on this call? No

Others Contacted this call (Titles) D. H. Goulding, Mgr. Quaker Maid Div.

Changes in Mailing List?

Type of Call—Productive X Service Comp.

Sources of Supply	Pr. Conv. this Calendar Quarter	If using competitive material, state type and reasons
DuPont		
Sylvania	office forecast	
Milprint		
Royal (Oneida- union)		

Items wrapped in cellophane showing: Food products

Other products on which Cellophane could be used: (Note new products in work) Food products

a. Specific sales tools used—below:

b. Latest success story—below:

c. Service and general remarks—below:

d. Agreement secured? Yes

e. Did you secure order? placed

PIECES OF PROFIT candy book

Machine data

Macaroni photos

RECEIVED JUL 17 1939 FEDERAL TRADE COMMISSION

Date of last Prod. Call	Rec'd in Duplic. Office	Date Typed	Copies for
7/13/39	8/16/39	8/17/39	C

CREATIVE WORK DONE

1. New items on market since last call or order placed—distribution, potential.
2. Result of suggestions made on previous calls.
3. Creative suggestions to extend use of Cellophane made on this call and customer's promised action.
4. What is your plan for next call?

Date of last Prod. Call	Rec'd in Duplic. Office	Date Typed	Copies for
7/13/39	8/16/39	8/17/39	C

CREATIVE WORK DONE

1. New items on market since last call or order placed—distribution, potential.
2. Result of suggestions made on previous calls.
3. Creative suggestions to extend use of Cellophane made on this call and customer's promised action.
4. What is your plan for next call?
5. What assistance can organization give you? (See back of report)

CANDY.....
Based on surveys of the A and P Stores we called attention to the fact that no loose hard candy is being promoted and cited the 5 and 10¢ and department stores promotion in this respect. To show value of the Summer market for hard candy we presented PIECES OF PROFIT dwelling on the mass counter displays as pictured and pointing out the same possibilities for the A and P Company.

Goulding admitted that little or no attempt had been made in bulk display of hard candy and that mostly 1/2 and 1# bags had been sold heretofore. In confidence he stated that the A and P Company were about to go into making of hard candy themselves and that in all probability the department will be set up in their present Brooklyn location. Goulding discussed wrapping machines printed "Cellophane" etc., and we gave him information as to type of wrapping., machines available, printed "Cellophane" sources, etc.; as to when hard candy plant will be in operation, Goulding declined to say but stated he will keep us posted so that we can offer assistance (office notified so that Brooklyn Plant be covered and further information gained.)

Handled by

TEA....
Not wishing to confine ourselves exclusively with candy we requested the opportunity to acquaint them with the merchandising and protection value of 300 MST "Cellophane" on (Quaker Maid Division) packages. Goulding stated that, although under his jurisdiction, we would have to work with Mr. L. H. Gillespie of the Tea Division.

Handled by

MACARONI PRODUCTS.. . M1319
At present they are using over

RETAIL STORE SURVEY

When you used in your interview information developed by your survey of retail stores, give the facts briefly under question 5. Information affecting products in other territories should be reported below.

When requesting Package and/or Machine Developments, supply complete information as given below under Question No. 5.

PACKAGE DEVELOPMENT REQUEST

1. Product?
2. Date wanted?
3. Retail Price?
4. When will samples be sent?
5. Description of development desired; type of wrap, label, containers, etc.
6. Type of Cellophane?
7. Machine wrapped?
8. Returns direct to account? If to you, where?

MACHINE DEVELOPMENT REQUEST

1. Product?
2. Samples? (If no samples give sketch and complete overall dimensions of each size.)
3. "Cellophane"? Weight, color, type
4. Daily production each size?
5. Yearly production each size?
6. Is production seasonal?
7. Average retail price each size?
8. Are wrapping machines now used?
9. Name of manufacturers?
10. Machine model and number?
11. If new machines required, shall machine manufacturers salesmen call?

Macaroni Elbows, Rice, Peas, Beans and Dried Fruit - distributed under Quaker Maid label, packed in bags of "Cellophane.

Covered central packaging possibilities, suggesting use of automatic bag making equipment which offers a definite saving. (Reviewed with Mr. Goulding our work with Donahue of the A & P Engineering Department, who is investigating for their company the possibilities in this direction.) The points of advantage would be as pointed out to Mr. Goulding:

a) Lower bag costs.
b) Use of du Pont bag stock therefore less breakage.
c) Uniform packages plus elimination of waste from filling, now experienced in the stores of the company.
d) Greater divisional profit advantages, etc.

R) Mr. Goulding expressed interest and from his remarks will evidently examine Donahue's files and learn what his recommendations are if completed. They have never encouraged centralized packaging on the Quaker Maid Samples for various reasons, but the possibilities put forward today encourage investigation on their part.

4. Check further on Candy bar promotion. Present "Watch Your Step" film to Bakery Department executives.

5. None.

M1318

down their transparent bag costs in the Grocery Division and have investigated to some lengths the possibility of setting up, at their Brooklyn warehouse, "Cellophane" bag macking machines. In this direction they have investigated the following:

Date of Last Prod. Call	Rec'd at District Office	Date Typed	Copies for
See ICI's file	1/20/39	1/24/39-h	

CREATIVE WORK DONE

1. New items on market since last call or order placed—distribution, potential.
2. Result of suggestions made on previous calls.
3. Creative suggestions to extend use of Cellophane made on this call and customer's promised action?
4. What is your plan for next call?
5. What assistance can organization give you? (See back of report)

1) Amsco Wrapade bag making equipment.
2) Smythe Envelope making equipment.
3) Simplex "Cellophane" bag machine.
4) Possibilities of converting present "Hessen" machine set up (now making coffee bags) to the handling of "Cellophane".
5) Scandia-Shellmar bag making machine without the use of printed "Cellophane".

However, after inspection and complete review of all these possibilities, they rejected all because:

1) Did not give square or satchel bottom fold.
2) Envelope machine only ?
3) Would entail a separate crew of girls and not automatic.
4) Probably too costly and not helpful if other warehouses set up operation.
5) Scandia machine not considered sufficiently advanced and do not, furthermore, want to make any arrangements that will include the use of printed stock.

It was then determined that they have several "Scotch" weigh-filling machines that they want to keep in use, if possible. Mr. Donahue then wished to hear what we recommended, after our covering the fact that we could offer a special film for bag making we presented our machine data book covering the automat molding and folding equipment and also the Peters machine.

This was definitely interesting to them, but it was then revealed they were only thinking in terms of $1500. per unit and anything above that figure was out of the question. Pointing out the tremendous saving in the use of roll stock, etc., explained that an investment in either of machines mentioned above

Defendant's Exhibit No. 421

B-12815

DUPONT

Cellophane

TRADE REPORT

(Trade Analysis Copy)

PROM. SECT.	PROD. DEV.
SALES SERV.	SERVICE SECT.
ADV. SECT.	PLANNING

Salesman: Tranfield — Date: 8/14/39 — No.: 392

Firm: THE GREAT A AND P CO. (Quaker Maid Div.) — Bus.: Grocers — Class: 1-12

St. & No.: 420 Lexington Ave. — City: NYC — State: NY

Controlled by:

Final Decision by (Titles): Committee — Contacted on this call? Goulding

Buyer: M. B. Schilling — Contacted on this call? No

Others Contacted this call (Titles): D. H. Goulding, Mgr. Quaker Maid Div.

Changes in Mailing List?

Type of Call—Productive: X — Service: — Comp.:

Sources of Supply	Est. Cons.-lbs. this Calendar Quarter	If using competitive material, state type and reasons
DuPont		
Sylvania	see office forecast	
Milprint		
Royal (Oneida- union)		

Items wrapped in transparent sheeting: Food products

Other products on which Cellophane could be used: (Note new products in work) Food products

a. Specify sales tools used—below:

b. Latest success story—below:

c. Service and general remarks—below:

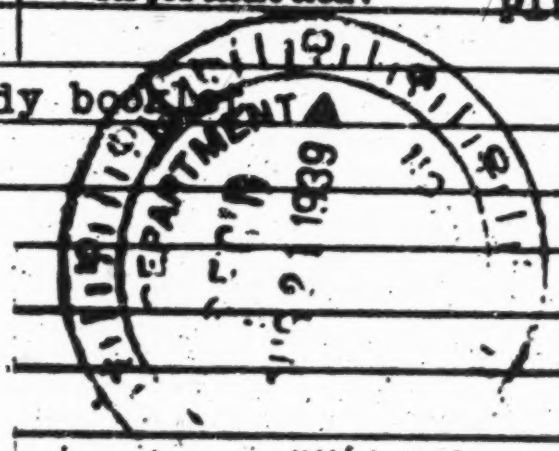
d. Assessment account? Yes

e. Did you secure order? Placed

PIECES OF PROFIT candy booklet

Machine data

Macaroni photos



Date of last Prod. Call	Rec'd at District Office	Date Typed	Copies for
7/13/39	8/16/39	8/17/39	G

CREATIVE WORK DONE

1. New items on market since last call or order placed—distribution, potential.
2. Result of suggestions made on previous calls.
3. Creative suggestions to extend use of Cellophane made on this call and customer's promised action?
4. What is your plan for next call?
5. What assistance can organization give you?

What recommendation can you make on 1/2# and 1# and 2# "Cellophane" bag making machines - what is your opinion of Automat Molding & Folding Company's equipment and will it handle satisfactory 300 MST or 450 MST (special bag stocks) for free flowing materials? The turnover period of dried vegetables, peas, beans, etc. is maximum 3 days - is it therefore safe to work with 300 MST special film only?

General Sales
please handle

HANDLED
a.f.B.
2/8/39

1-24 1939	S	(1-18-38) E.J.Donahue-Installing coding equipment on National bread wrapping machines running "Cellophane". Requested information on type of ink to use. Recommended No 82 American Stamp Mfg Co.NYC whom they will contact for samples.

John Gardiner Asst.

M1317

Date of last Prod. Call	Rec'd at District Office	Date Typed	Copies for
7/13/39	8/16/39	8/17/39	G

CREATIVE WORK DONE

1. New items on market since last call or order placed—distribution, potential.
2. Result of suggestions made on previous calls.
3. Creative suggestions to extend use of Cellophane made on this call and customer's possible action?
4. What is your plan for next call?
5. What assistance can organization give you? (See back of report)

CANDY.....
Based on surveys of the A and P Stores we called attention to the fact that no loose hard candy is being promoted and cited the 5 and 10¢ and department stores promotion in this respect. To show value of the Summer market for hard candy we presented PIECES OF PROFIT dwelling on the mass counter display as pictured and pointing out the same possibilities for the A and P Company.

Goulding admitted that little or no attempt had been made in bulk display of hard candy and that mostly 1/2 and 1# bags had been sold heretofore. In confidence he stated that the A and P Company were about to go into making of hard candy themselves and that in all probability the department will be set up in their present Brooklyn location. Goulding discussed wrapping machines printed "Cellophane" etc., and we gave him information as to type of wrapping., machines available, printed "Cellophane" sources, etc.; as to when hard candy plant will be in operation, Goulding declined to say but stated he will keep us posted so that we can offer assistance (office notified so that Brooklyn Plant be covered and further information gained.)

Handled by Mr. [illegible]

TEA.....
Not wishing to confine ourselves exclusively with candy we requested the opportunity to acquaint them with the merchandising and protection value of 300 MST "Cellophane" on (Quaker Maid Division) packages. Goulding stated that, although under jurisdiction, we would have to work with Mr. L. H. Gillespie of the Tea Division.

Handled by Mr. [illegible]

MACARONI PRODUCTS.. .
At present they are using

M1319

RETAIL STORE SURVEY

When you used in your interview information developed by your survey of retail stores, give briefly under question 5 Information affecting products in other territories should be reported below.

• • • •

When requesting Package and/or Machine Developments, supply complete information as given below under Question No. 5.

PACKAGE DEVELOPMENT REQUEST

1. Product?
2. Date wanted?
3. Retail Price?
4. When will samples be sent?
5. Description of development desired; type of wrap, label, containers, etc.
6. Type of Cellophane?
7. Machine wrapped?
8. Return direct to account? If to you, where?

MACHINE DEVELOPMENT REQUEST

1. Product?
2. Samples? (If no samples give sketch and complete overall dimensions of each size.)
3. "Cellophane"? Weight, color, type
4. Daily production each size?
5. Yearly production each size?
6. Is production seasonal?
7. Average retail price each size?
8. Are wrapping machines now used?
9. Name of manufacturers?
10. Machine model and number?
11. If new machines required, shall machine manufacturers salesmen call?

MACARONI PRODUCTS (cont'd).

combination bags of Glassine and transparent sheeting for 1# macaroni products, but surveys show units have no display value due to the smallness of the transparent window. We suggested, therefore, that we attempt to work out a more colorful packaging - using an all "Cellophane" container. In the first place, we recommended:

1. Special MST bag stock.
2. Use of Amsco Simplex or Package machines to make bag or container and so cut the cost and allow use of MST special stock.
3. Crimp Seal and label enclosure giving protection of contents plus eye appeal.

We presented Borden 1# unit of caramels in No. 450 MST special "Cellophane" as an example. Goulding had secretary take notes on our recommendations, stating brittle all-transparent bags had forced them to the adoption of the window bag. Goulding said he would go into the macaroni packaging further and see what could be worked out.

4. Check on Hard Candy release plus macaroni development. Xmas packaging of bottled goods will again be brought up.

5. None.

8/28 1939	S	Presented DuPont Cellulose sponge bands as requested for Mr. Bow of Bakery Purchasing Division.
9/6/39		Contacted M. B. Schilling re .446 per pound price on emergency shipments of roll stock from N.Y. Warehouse. The additional charge of .006 per pound is acceptable to A. & P. for these emergency shipments.

1955 827

M1319

Defendant's Exhibit No. 422

DUPONT

Cellophane
TRADE MARK

TRADE REPORT
(Trade Analysis Copy)

PROM. SECT. ☑
SALES SERV ☐
ADV. SECT. ☐
CONV. SECT. ☐
PROD. DEV ☐
SERVICE SECT. ☐
PLANNING ☐

Salesman: R. J. Crowley — Date: 4/23/41 — Type Call: P — Date last Call: 4/22/41 — Type Call: P — Date last Prod. Call: — Class: 1-12

Firm: The Great A & P Tea Co.

St. & No.: 420 Lexington Ave. — Bus. Controlled by: Food

City & State: New York, N.Y.

Final Decision by (Titles): Division Mgrs. — Contacted this call?

Buyer: M. B. Schilling, P.A. — Contacted this call?

Others Contacted this call (Titles): E. J. Donahue, Ass't Mgr. Engr. Dept.

Sources of Supply	Est. Cons. Hbs. this Calendar Quarter
du Pont	
Sylvania	Cr.Tube
Milprint	Union Bag
Daniels	
Dobeckmun	

If using competitive material, state type and reasons

Using in transp. sheeting: (specify which) in competitive unconverted form

Bakery - Candy and food products.

RETURN TO "CELLOPHANE" TRADE ANALYSIS

H

MAY 1 - 19[illegible]

Other potential products

Bakery - Candy and food products.

a. Sales aids used—specify below	d. Mailing list changes—below
b. Latest success story—below	e. Agreement expires?
c. Service and general remarks—below	f. Did you secure order?

a- Request call. Wanted to discuss bag making machines again. They had conferred with purchasing department and found they still could save money over converter prices. Suggested they try out one machine in a near by branch for a cost and convenience appraisal. Will discuss whole situation with other members of department later this week.

Mr. Donahue requested writer to make trip to Pittsburgh to inspect centralized warehouse packaging

CREATIVE ACTIVITY

1. New items on market since last call—supplier, distribution, annual potential.
2. Result of suggestions made on previous calls.
3. Creative effort: (a) Objective this call? (b) Specific suggestions made; including evidence from your retail store surveys. (c) Action promised by customer?
4. What is your plan for next call?
5. Action needed by: (a) District Office (b) Headquarters.

set up to offer suggestions for improvements, and to have a first hand knowledge of their operation so as to work closely with them on this program.

It is my recommendation that R. R. Smith make this contact, possibly on his way to Chicago for the Candy convention. Definite arrangements must be worked out with Mr. Schilling here in New York City.

General Sales Mgr's

HANDLED W.L.B. 5/7

- - - - - - - - - - -

Mr. Schilling came to office later in day with his family and we took them to the building tower.

5/9/41 RJC	P	M. B. Schilling. Request Call. Wrapping of cheese cuts in "Cellophane" to replace wax. Will pass on complete plan to Produce Department. Covered recent activities with engineering group on "15.25 Plus Plan". Impossible to secure competitive data today.
5/14/41	P	M. B. Schilling. Request call for further assistance on (1) "15.25 Plus Plan equipment; (2) Cheese cuts. Gave information required. Mr. Schilling enroute to Chicago. Made appointment for 5/22 so I could discuss competitive situation.

M1820

Defendant's Exhibit No. 423

Date 3/14/39 No

Cellophane

CONVENTION REPORT

DU PONT

Packaging Convention

Location Hotel Astor, New York

Date March 7-10, 1939

Interviewed by R. M. Mac Donald

Firm American Stores Co.

Address Philadelphia, Pa.

Men Interviewed and Title- Wm. Kelly.

1. What specific items interested in and direction of interest:

Considering extending transparent bag packaging. Asked our opinion as to best bag making machines on basis of speed, flexibility and strong construction of bags. We suggested he see Scandia, Amsco, Shellmar & Wrap Ade" He was interested in New A & P Puffed goods units in Shellmar bag. Kelly did not disclose his identity to Ba g machine manufacturers at the show although he secured

2. [redacted]

literature on all the machines.

3. Action to be taken:

Copies for: V. C. Clark, for salesmen
M. C. Pollock - H. O. Ladd

M1321

Defendant's Exhibit No. 424

B-12273

SPECIAL TRADE REPORT

Section ~~Trade Analysis~~

By V. C. Clark & C. Russell Date 2/7/41 No. 1-24

Firm American Stores Co. Bus.

St. and No. City Phila. State Penna.

Int'v'd and Titles

Subject:

RETURN TO "CELLOPHANE" TRADE ANALYSIS

2/7/41P --Contacted Messrs. Todd and Bodtke re- quest to discuss use of Stokes and Smith Trans- wrap Machine for 1 lb. units of dried vegetables, etc. They wanted guarantee that the heat seal would hold the products in process of manufactur- ing the package and thru channel of distribution.

Mr. Russell decided to make tests with Stokes and Smith before making a commitment.

Mr. Bodtke indicated that they may buy three ad- ditional Transwrap Machines.

~~Attempted to interest them in making bags on a~~ Simplex machine and equip central packing unit ~~with Triangle Weighing Machines, etc. Samples~~ of various products presented to show the relative value of each type unit from the following points ~~of view --package construction, design, stability,~~ display value, sales appeal, etc.

Will await result of Mr. Russell's tests with Stokes and Smith.

V.C.Clark--R.C.Russell

2/7/41 P. With Mr. Zell spent a few hours at their Acme Store at 921 Lehigh Ave. packing cheese cuts in "Cellophane" bags in place of ~~direct wrap. R-We decided 4 different sizes~~ needed - writer getting in touch with Shellmar and requesting proper size bags be obtained & to be turned over to Pittman of Amer. Stores. Later in day saw Pittman and advised him ~~of above.~~

2/7/41 P. At 19 & Hamilton headquarters. Interviewed Sam Todd. Presented return authority on rolls to be returned. Made suggestion on Package change for Princess gelatine envelope. R-He kept this and would like to see what we have. Writer has turned this over to Shellmar for development. Wm. J. Weber Tomato dept. Advised of Detroit success on PHT on repack tomatoes. R-He willing to go along with test at their own repacking plant at 31st & Marsters. He states he will take me there when I get samples sheets and we will go over whole set up. Wm. Getz, Celery. Basis our recent call at De Luxe Celery, Phila. Approached him on plan of us using a few stores as test stores in conjunction with DeLuxe. He perfectly willing and will assist in test.

M1322

Cellophane TRADE MARK TRADE REPORT

(Trade Analysis Copy)

SALES DIV.	
PROM. SECT.	
SALES SERV.	
ADV. SECT.	
CONV. SECT.	
PROD. DEV.	
SERVICE SECT.	
PLANNING	

Salesman: J.W. Scott / J.D. Baker dp — Date: 4/18/41 — Type Call: P.

Firm: AMERICAN STORES CO. — Date last Call — Type Call — Date last Prod. Call — Class: 1-52

St. & No.: 10th & Hamilton St. Ch. Store — Bus. — Controlled by:

City & State: Phila., Pa.

Final Decision by (Titles): Comti — Contacted this call? No

Buyer: Sam Todd — Contacted this call? Yes

Others Contacted this call (Titles): W. R. Moffett, Candy; Wm. Pittman, Cheese; Easter buyer

RETURN TO "CELLOPHANE" TRADE ANALYSIS APR 24 1941

Sources of Supply	Est. Cons. Req. this Calendar Quarter
Milpt.	5,000
Shellmar	6,000
Sylv.	2,000

If using competitive materials state types and reasons.

(Sylv.) MST - Co. policy 2 sources of supply (Goodyear) protection nut meats & Stokes & Smith Machine.

Items in transp. sheeting (specify which is competitive or converted film)

DuPont	19,000
Goodyear	2,000
Dobeck.	2,000

Bakery products - dr. veg. packed at stores, spec. items, candy Goodyear -

Other potential products:
nut meats and dried veg. on Stokes & Smith Mach.
3 oz. to 16 oz. spec. items.

a. Sales aids used—specify below:	d. Mailing list changes—specify below:
b. Latest success story—below:	e. Agreement effected:
c. Service and general remarks—below:	f. Did you secure order?

RECEIVED APR 24 1941 RAYON DEPARTMENT

(1-2) None.

(3 a) Peas, beans, rice, ce[illegible] packaging analysis.

b) Explained to Todd details of cost analysis of Simplex Machine triangle filler - plain & MST bags & printed bags.

c) Mr. Bodeke not here today and Mr. Todd suggested I see him next week.

d) W. R. Moffett, Candy
Obtained information as requested by

CREATIVE ACTIVITY

1. New items on market since last call—supplier, distribution, annual potential.
2. Result of suggestions made on previous calls.
3. Creative effort: (a) Objective this call? (b) Specific suggestions made, including evidence from your retail store surveys. (c) Action promised by customer?
4. What is your plan for next call?
5. Action needed by: (a) Division (b) Headquarters.

HANDLED

Harbison ref. York Caramel Mr. Moffett advises the tray of Caramels did not sell last fall the way expected and Carmels do not sell in winter because of pressure on chocolates & then Easter goods.

e) Starting now carmels will come in to their own and he is wondering if a nationally adv. caramel 1# bag is the item for them to handle in place of their tray of own private brand. Is only going to have one summer unit of a cocoanut piece in tray. Usual jellies & hard candy.

f) Pittman Butter cheese.
Morgans request reaction to Marwyns Dairy sampling Pittman with their butter carton in MSC Amber. He and others do not favor amber like the MST unit we presented. However they rejected our development because of increased cost to package their position is just the other way to lower costs. Suggested a store test to determine if could get better price & if would sell more. Later warmed up to this and advises package changes in their butter about to come up and this may be time for consideration suggestions on layout for store wrapping of all supers in this district. Agreed to do something with the 170 supers in Phila. district with half rolls & cutters for each store.

(4) Bodtke - Analysis on dried vegetables.

(5) None.

M1328

Defendant's Exhibit No. 426

MC

Cellophane TRADE MARK TRADE REPORT

(Trade Analysis Copy)

	B	S
SALES COR.	☐	
PROM. SECT.	☐	
SALES SERV.	☐	
ADV. SECT.	☐	
CONV. SECT.	☐	
PROD. DEV.	☐	
SERVICE SECT.	☐	
PLANNING	☐	

Salesman W. A. H. DEMME Date 1/22/40 Type Call P

Firm Ontario Biscuit Co. Date last call 12/27 Type Call S Date of last order 18/19/39 Plant 12

St. & No. 20 Watson St. Buyer Cr. & Disc.

City & State Buffalo N. Y. Controlled by

Final Decision by (Title) H. R. Templeton Pres. Contacted this call? No

Buyer A. Weiss Contacted this call? Yes

Others Contacted this call (Titles) McPalin

Sources of Supply	Est. Cons. lbs. this Calendar Quarter	If using competitive material, state type and reasons
duPont	5000	W H Wallace

Items in transp. sheeting: (specify which is competitive or converted film)

4 cookie cartons
11 " boats (overwrapped) see below.

Other potential products:

Bagged items

JAN 1940

a. Sales aids used—specify below:	d. Mailing list changes—below:
b. Latest success story—below:	e. Agreement expires?
c. Service and general remarks—below:	f. Did you secure order?

a. Store Surveys . Machine Information.

RATION DEPARTMENT REC'D JAN 25 1940 WILMINGTON

CREATIVE ACTIVITY

1. New items on market since last call—supplier, distribution, annual potential.
2. Result of suggestions made on previous calls.
3. Creative effort: (a) Objective this call? (b) Specific suggestions made, including evidence from your retail store surveys. (c) Action promised by customer?
4. What is your plan for next call?
5. Action needed by: (a) District Office (b) Headquarters.

1 & 2/ Macaroonette Cookies
Peter Pan "
Assorted Sandwich Cookies
DeLuxe " "
Ontario " " All 10 ¢
Peanut Drop "
Vanilla Wafer " 22000 lbs. Boat Units
Chocolate Twinkle "
Vanilla " " from distributed
Ginger Snap "
Brown Edge Cracker duPont Wholesale

3. a. Make certain proper follow up is used with of these new items.
b. Cited store surveys to drive home necessity of proper display. Urged utilization of display racks and reprints to best advantage. Discussed release of 12 bag units in March. Discussed making bags in their plant.
c. Will follow recommendations all are anxious to put these over. (Have produced 12 M dozen units within past 2 weeks)

4. Take Don Templeton & McPalin to Rochester to see Simplex bag machine in operation.

WIL HANDLE

5. B. Advertising: They would like 200 more reprints. Please have word "By" inserted just before Ontario.

The 200 they have received have been used in Buffalo alone mostly. Some have gone to Erie & Rochester branches.

Package Development 1

1. Product?
2. Date wanted
3. Retail price?
4. When will samples be sent?
5. Description of development desired; type of wrap, label, containers, copy, etc.
6. Type of Cellophane?

If Package is to be Machine Wrapped

7. Peak daily and annual production each size?
8. Are wrapping machines now used? (name, model, etc.)
9. Remarks?

E.mira and Binghamton branches.

Please send them marked for Mr. Don Templeton's attention.

HANDLED Nov 25 40

1/26/40	S.	McPalin(Both Templetons still on tick) ~~Made arrangements for carton of biscuits to be sent~~ H. B. Putney. (K. M. Scheu's letter 1/24/40)
2-13-40	S.	~~Both Templetons, McPolin, Gerber, Saw~~ "preview" of new lacquering equipment. Had Watson, Miller rep. along to discuss bag machine. Saying ~~plans for new bag released now. May purchase machine.~~ WH Wallace
3-4-40	P.	Don Templeton & John Mains. We told of store surveys (A & P) in which we saw larger displays of Ontario products (bags boats & cartons) than ever before and inquired as to successes. They are very well pleased. The bag units have been released ~~for chain store distribution only at present.~~ These have enabled them to annex some A & P business. Much more will follow. General release ~~of bag units will follow later. These~~ units are rather experimental at present. We will list items when regular line is es-. tablished. WIL HANDLE
		WILMINGTON: Please add Mr. Frank Gerber to mailing list. WH Wallace
3-7-40	T.	Phoned Don Templeton to make arrangements to show "Food For Thought" next week. He will consult other executives and determine best time. We will contact him tomorrow. WH Wallace
3-8-40	T.	Phoned Don Templeton regarding "Food For Thought" showing. Set Tuesday afternoon at 4:00 as the time. M1324

Defendant's Exhibit No. 427

DUPONT

Cellophane TRADE MARK
TRADE REPORT
(Trade Analysis Copy)

SALES COR.	☐
PROM. SECT.	☐
SALES SERV.	☐
ADV. SECT.	☐
CONV. SECT.	☐
PROD. DEV.	☐
SERVICE SECT.	☐
PLANNING	☐

fe

Salesman: W. A. H. Demme — Date: 5/17/40 — Type Call: P

Firm: ONTARIO BISCUIT CO. — Date last Call: 5/ 2/40 — Type Call: P — Date last Prod. Call: 5/2/40 — Class: 1-12

St. & No.: 20 Watson St. — Bus.: Cr. & Bisc.

City & State: Buffalo, N. Y. — Controlled by:

Final Decision by (Titles): H. R. Templeton, Pres. — Contacted this call? no

Buyer: A. Weiss — Contacted this call? no

Others Contacted this call (Titles): Don Templeton, McPolin and Gerber

Sources of Supply	Est. Cons. lbs. this Calendar Quarter	If using competitive material, state type and persons
du Pont	3000	

Items in transp. sheeting (specify which is competitive or converted film)

~~4 cookie cartons, 11 boats, 12 bagged items~~

Other potential products:

More bagged items

a. Sales aids used—specify below:	d. Mailing list changes—below:
b. Latest success story—below:	e. Agreement expires?
c. Service and general remarks—below:	f. Did you secure order? no

A. Machine information. Loose-Wiles Trade Ad.

B. Bagged items are going so successful that McPolin phoned the other day and requested us to bring the Simplex representative (Mr. Watson) in as soon as possible.

C. Held lengthy discussion with Mr. Watson (who came along on this call), McPolin, Gerber and Don Templeton on bag making possibilities. The use of thermoplastic labels and heat sealing of the bags was also pointed out. After working out comperative costs, Mr. Watson gave specific quotations on both pieces of equipment. The contract was drawn up and is awaiting final O.K. by H.P. Templeton. This is expected early part of next week.

Sincere appreciation was expressed for our recommendations for a more efficient and less costly operation. It is estimated they will make a minimum average saving of $5.00 per M units.

Don Templeton advised us (in confidence) he had lined every one up that our film will be used 100% in the future -- positively no competitive stock will be run. This was handled in the form of an operating instruction.

CREATIVE ACTIVITY

1. New items on market since last call—supplier, distribution, annual potential.
2. Result of suggestions made on previous calls
3. Creative effort. (a) Objective this call? (b) Specific suggestions made, including evidence from your retail store surveys. (c) Action promised by customer
4. What is your plan for next call?
5. Action needed by: (a) District Office (b) Headquarters.

1, & 2. None.

3. (a) Drive home the necessity of more packaged items and elimination of bulk.
(b) Used Loose-Wiles Trade Ad. to Nth degree. Went over each of their 15 points. Supported story with store surveys. Discussed plans for the eventual elimination of bulk.
(c) Agrees and sees the handwriting on the wall. Purchase of this bag making machine will permit them to go further than ever with bag units.

4. Follow above.

5. None.

M1325

OVER 4962 834

5/20/40 T. Phoned McPolin at his request. He wanted information on Peters bag making machine, particularly if any were in our territory. they have about decided to purchase Simplex but they just wanted our views before signing up. SALES SERVICE: Please send me information on Peters and any others.

5/29/40 S - McPolin (Request call). They have order Simplex Bag Machine and will want some small rolls for experimental work. We will supply. Also learned a new Package F.A.Q. 2 is on order.

Russell ; Wallace

Date 5/26/40 Decrease Last Qtr. vs. Corr. Qtr. 2,000 Competitive Sales—This Qtr.

Remarks: Competition trial order - discontinued "Cellophane" some carton items.

6/18/40 P. D.& H.R. Templeton, Williams, McPalin & Gerber. Have ordered Simplex & Amsco rotary crimper. Expect these units along with package machine in about 6 weeks.. Business going fine. In addition to boat increases they used approx. 75M bags within past month. Presented samples of Trenton crackers. They will discuss possibilities and may distribute them. Presented sample unit picked up in survey and suggested use of "Cellophane" to replace present glassine. R-Will consider this when bag machine is installed. Presented photo of their display - attached to News Flash #32.

EHW Russell

M1325

Defendant's Exhibit No. 428

CONFIDENTIAL

SPECIAL TRADE REPORT

Section Sales Service - Engr.

By J. A. Schaeffler Date 10/7/40 No.

Firm KRAFT CHEESE COMPANY Div.

St. and No. Peshtigo Court City Chicago, State Ill.

Int'v'd and Titles Wm. Bell - Quality Control

Paul Katien - Asst. Supt.

Subject: Printing, Bag Making and Opening Tape

Date of Last Call	Date Rec'd in Office	Date Typed
	10/9/40	10/9/40 Hay -

(Answer each question numerically below)

1. Report of interview.
2. What action is to be taken on results of this call?
3. What action do you want others to take?
4. Who is to receive copies of this report?

1. Mr. Bell requested the writer to call on him to discuss various future plans. The first subject he brought up was printing. They are seriously considering doing their own printing for caramel wraps which is simple color gravure type. We covered the leading manufacturers of printing equipment and suggested Rotogravure Engineering of Boston for presses and Charles Beck for slitting. Also mentioned Chambon and Cameron. They will contact these concerns for details, but want to include necessary appropriation in budget which is now being prepared.

Bell is also interested in making their own bags as these units have become very popular in their retail outlets. We covered various bag machines available and Bell is particularly interested in the Simplex as he claims 3,500 to 4,000 bags an hour would be satisfactory. They now buy satchel bottom type, but the square type bag will be Okay.

Learned that they are building own machines to wrap 5¢ caramel unit on card (now hand wrapped). Opening tape will be included on this package. Covered mechanical application of tape and gave cost figures on 450 MSC red which they intend using. Have obtained samples from Shellmar which are printed. We pointed out that MSC red would have better appearance (printing job was poor on samples) and they could purchase directly from us. Kraft apparently are trying to place all business direct.

Learned that Bell ordered 3 new Rose Eagle caramel wrappers last Friday, delivery promised in 16 weeks. They plan to get 4 more of these machines in the near future to take care of the increased production planned for the coming year (from 9,000,000 to 18,000,000 lbs.).

Asked Mr. Bell how du Pont material was operating - he said 100% satisfactory. He further told us that they felt our material was not as soft as Sylvania, but they had adjusted the machines for ours and he had definitely recommended to the management that changing back and forth from one source of supply to another would upset their production efficiency - therefore, use 100% du Pont. This was very gratifying coming from Bell, who has opposed our material in the past.

They have returned the Forgrove caramel wrapper as Kerber of Package Machinery Company finally admitted it would not do the job with their candy. Have been getting 90% efficiency with Rose machines, while best that Forgrove would give is 70%. The Forgrove will handle soft candy Okay, but they do not want to make such soft caramels.

2. The above interest in printing and bag making is strictly confidential.

Believe we can expect a large increase in poundage here as Bell said, "We should be making 40 million pounds of caramels a year, I can't get excited over 18 million". They have stepped up Caramel

Department today from 16 to 24 hour production
3 16 hours on seven machines and two to be operated 24 hours. This is partly to handle production of Forgrove machine just returned.

3. D. C. Hunter: Checked on latest shipment from Traver, which is running Okay.

4. Copies to: W. J. Harte
E. M. Wallace
M. H. Wheat
W. G. Hunter - R. C. Russell
D. C. Hunter
W. A. Schaeffler

M1326

Defendant's Exhibit No. 429

This File secured from Hall of Records

Return to 12312 PKG 39

SPECIAL TRADE REPORT

Section SALES SERVICE - ENGINEERING

By J.A.Schaeffler-R. R.Smith Date 12/19/41 No

Firm KRAFT CHEESE COMPANY Bus Caramels

St. and No. Peshtigo Court City Chicago State Ill.

Int'v'd and Titles William Bell - Quality Control

Steve Lumpp - Factory Supplies

Subject: CONSULTING

Date of Last Call	Date Rec'd in Office	Date Typed
	12/19/41	12/23/41 COR

(Answer each question numerically below)

1. Report of interview.
2. What action is to be taken on results of this call?
3. What action do you want others to take?
4. Who is to receive copies of this report?

1. Called at request of Bell to assist on bag operations. Bell claims have encountered breakage on printed bags made on their Clipper machine. R. R. Smith checked yesterday and found Cuneo service man working on bag machine. They buy all printed bag stock from Cuneo (70% du Pont #450 MST-53, remainder competitive material.) Claim unable to run Sylvania stock on Clipper machine - bags scorch and wrinkle and very poor seal. Better results with our material but bags stick together when stacked in boxes. Found seal trouble remedied greatly today - apparently Cuneo man did some good. They check temperature frequently with pyrameter and hold jaws to around 350 degrees Fahrenheit running at 140 per minute. Any lower heat will not seal bottom. Suggested they build cross conveyor and discharge bags onto belt so they can cool before packing in boxes to eliminate sticking. Bell feels this excellent idea and will get to work on this immediately. Explained had to arrange conveyor to stack bags as they are discharged. In order to run Sylvania stock Cuneo has loaned them a Simplex machine but this will only make 60 per minute, which is too slow. Writer favors Simplex machine over Clipper due to more positive temperature control - Bell agrees. Suggested opening jaws more on Clipper if they run into trouble with inner walls sealing together too strong at bottom of bags. Checked du Pont and Sylvania stock - showed Bell competitive stock broke much easier than our 450A MST-53. This definitely convinced them that our thinner sheet (Sylvania claim they have not changed their bag stock) is still strongest sheet. Looked over caramel department. No trouble on Rose machines but occasionally encounter brittle spots in MT-33 rolls (printed). Are taking this up with Shellmar and Milprint. Now have 11 Rose Eagle machines, 2 Elec-tri-pak machines and Amsco rotary crimper. Also have built own machine for wrapping 7 caramels on card with opening tape.

2. As requested. Bell appreciated our help and will follow suggestions we offered.

3. None.

4. C. F. Brown - [redacted]
E. M. Wallace
R. R. Smith
W. G. Hunter
R. C. Russell
J. A. Schaeffler

M1327

Defendant's Exhibit No. 430

July 18, 1940

Mr. R. A. Brock, Secretary,
BROCK CANDY COMPANY,
1135 Chestnut Street,
Chattanooga, Tennessee.

Dear Mr. Brock:

Thank you for your letter of July 15th, asking for information on a machine best suited for bag fabrication.

In the light of our experience, the new automatic Simplex bag making machine is the leader in its field. It possesses characteristics which are responsible for the formation of an unusually strong bag. This is particularly true on the heat-seal at the end of the bag.

The Simplex machine can produce both square and flat type bags at a speed ranging from 3,000 to 4,500 bags per hour. The machine will use either plain or printed "Cellophane", the latter with the aid of registration device. The cost is in the neighborhood of $950.00.

We are writing to the Miller Wrapping & Sealing Machine Company, 18 South Clinton Street, Chicago, Illinois, who handle the Simplex machine in the Mid-West, asking them to send you detailed information on this equipment. We hope this meets with your approval.

If there is any other service we can render, please feel free to let us know.

Very truly yours,

H. A. Lesher,
ENGINEERING SERVICE

HAL:D

M1328

Defendant's Exhibit No. 431

R-12315*

DU PONT

Cellophane TRADE MARK
TRADE REPORT
(Trade Analysis Copy)

SALES COR	
PROM SECT	
SALES SERV	
ADV SECT	
CONV SECT	
PROD DEV	
SERVICE SECT	
PLANNING	

Salesman: M. T. Callender — Date: 2-18-42 — Type Call: S

Firm: Winston-Newell Co. — Date last Call: 2-12-42 — Type Call: S — Date last Prod. Call: 2-12-42 — Class: 1-12

St. & No.: 300 6th Ave, No. — Bus: Food

City & State: Minneapolis, Minn. — Controlled by:

Final Decision by (Titles): T. G. Harrison, Mgr. — Contacted this call? Yes

Buyer: various — Contacted this call?

Others Contacted this call (Titles): Ab Rendall, Mgr. 15-25.

Sources of Supply	Est. Cons. lbs. this Calendar Quarter	If using competitive material, state type and grade
Du Pont	2,500	

Items in transp. sheeting (specify which in competitive or [illegible]):

15-25

Other potential products:

Groceries, coffee

a. Sales aids used—specify below
b. Latest success story—below
c. Service and general remarks—below
d. Mailing list changes—below
e. Agreement expires?
f. Did you secure order? No

Final details of bag sizes, etc. worked out -- they have purchased bag machine and placed preliminary order for 450 MST -- all items under 15-25 will be made of 450 MST 53. They have given complete list of requirements and am forwarding info to C. O. for allotment consideration. This co-operation on our part will be of great value in stablizing a strong 15-25 operation.

Management:

1. Tom Harrison, Mgr.--also chairman of I.G.A. final answer on important policy matters very aggressive and smart merchandiser.

CREATIVE ACTIVITY

1. New items on market since last call: supplier distribution, annual potential
2. Result of suggestions made on previous calls
3. Creative effort: (a) Objective this call? (b) Specific suggestions made including evidence from your retail store surveys. (c) Action promised by customer?
4. What is your plan for next call?
5. Action needed by: (a) District Office (b) Headquarters

Defendant's Exhibit No. 1379

2. Ab Rendall, Mgr. of 15-25 and Mfg. Dept.--an influence on decisions.
3. Geo. Pannkuk, P.A.--and Russ Bechtell, P.A. act as advisors and consultants on new plans.
4. Rudy Klatt, Adv. Mgr.--co-operations for house organ and promotions.

Winston-Newell are a depot of I.G.A. with branches in Fargo, N.D. and Des Moines, Ia.--are very sizeable coffee roasters and operate an up-to-date fruit and vegetable dept.

They distribute over N.W.--mostly via the mail order route -- only 4 supervisors--have 728 retail stores -- very strong in the country.

1 Simplex bag machine
1 Triangle filling machine
1 Betner bag filling and closing machine for coffee.
15-25 plan includes 46 different items packed in 1,2,3 and 4 lb. bags in units of 6 and 12 to a bale complete details on price, profit, etc. on work sheets.

3-10 42	P	Harrison, Randall. Machine for bags has not ye arrived. Suggested they start pushing 15-25 along economy lines, etc. as indicated by our consumer ads. Interested; will follow suggestion. Feel this dept. is one of few not interfered with by rationing, etc.

3-12 42	S	Randall. Secured order for new 15-25 plan.
3-20 42	S	Randall. Information on availability of motor driven screw for loading of brown sugar in 1# cellophane bags. Expect bag machine next week Arranged to give assistance.
3-24 42	S	Randall. Assisted in effort to rig loading device for 1# bags brown sugar in cellophane
4-1 42	S	Randall, Harrison. Have received new Simplex bag machine. Assisted in getting them started.
5-15 42	P	Harrison, Randall. Story on cans. Suggested an opportunity for them to pack cocoa in 450 MST bags; timely, profitable. Interested; will test at once. Want to test out Amber as well as get sketch on printed bags.
5-19 42	XX S	Randall. Secured order.
5-29 42	P	Harrison, Randall, Planning Section: mark records to ship 9½" OD rolls on all future shipments. Are now debating on printed bag vs plain bag for cocoa. Packed up 2 and 3# bags. Figured costs. Will make final decision this coming week. RECEIVED JUN 4 1942 WPB
6-10 42	P	Randall. Secured order. No further decision on cocoa pending possible rationing.
6-24 42	P	Randall, Harrison. Secured order. Discussed bag in box idea for their opinion and possible local leads. Considerable interest; will check line for possible leads.

Defendant's Exhibit No. 432

DU PONT

CELLOPHANE TRADE REPORT - DIRECTOR OF SALES COPY

FIRST CALL ☐

CUSTOMER: hw BERNARD LOEFFLAD.

SALESMAN: K. M. SCHEU

DATE LAST REPORT:

ST. AND NO.: 12 East South St.

DATE: 5/6/46

CONTROLLED BY PURCHASING AUTHORITY:

CITY-ZONE-STATE: Wilkes Barre, Penna.

CLASS: A-6

INDUSTRY: Potato Chips

DU PONT CELLOPHANE		COMPETITIVE MATERIALS						
SUPPLIER	USE THIS QTR.	MANUFACTURER	BUYS THROUGH	PT. MT. CA. ETC	1ST QTR. PUR.	2ND QTR. PUR.	3RD QTR. PUR	4TH QTR. PUR.
DU PONT	-	Sylvania	Crystal Tube	MST	500	500		
Shellmar	-							
Milprint	5,000							

REPORT CALL BELOW

SEE REVERSE SIDE FOR GUIDE

OFFICIALS	TITLE	INT VD	MAIL TO	M L CHGE

PRODUCTS AND CELLOPHANE WRAPPING				
PRODUCT	PRESENT ANNUAL CONSUMPTION	TYPE FILM (CODE)	R S C	ANNUAL POTENTIAL
TOTAL				

R-12727-A

* - R ROLLS S SHEETS C CONVERTED

1. B. Loefflad

2. Ordered 100M printed bags Milprint - 1/2 and 1 pound for peanuts.

3. Covered costs on making own double walled 300 Cellophane bags plain inside printed outside against buying bags from converters for chips.

4. He will stop at Amsco, New York City, first of next week, and no doubt will order two Simplex machines. Plans to make his own bags. Will use printed Cellophane - single walled bags from converters until we can supply plain Cellophane then will make and use double 300 MST bags.

5. Uses 200 - 225M printed peanut tubes per month - buys from Crystal Tube - Sylvania film. Will use Du Pont bags if he can buy them.

10(a) Please refer to Dobeckmun or Humitube - sample tubes attached.

M 1331

Defendant's Exhibit No. 433

CELLOPHANE TRADE REPORT - EXTRA COPY

DUPONT

FIRST CALL 3/a ☐

CUSTOMER: hw BERNARD LOEFFLAD

SALESMAN: K. M. SCHEU - ED WATSON

DATE LAST REPORT: 5/6/46

ST. AND NO.: 12 East South St.

DATE: 5/17/46

CONTROLLED BY PURCHASING AUTHORITY:

CITY-ZONE-STATE: Wilkes Barre, Penna.

CLASS: A-6

INDUSTRY: Potato Chips

DU PONT CELLOPHANE		COMPETITIVE MATERIALS						
SUPPLIER	USE THIS QTR.	MANUFACTURER	BUYS THROUGH	FT., MT., CA. ETC.	1ST QTR. PUR.	2ND QTR. PUR.	3RD QTR. PUR.	4TH QTR. PUR.
DU PONT	-	Sylvania	Crystal Tube	MST	500	500		
Shellmar	-							
Milprint	5,000							

REPORT CALL BELOW

SEE REVERSE SIDE FOR GUIDE

OFFICIALS	TITLE	INT'VD	MAIL TO	M. L. CHGE.

PRODUCTS AND CELLOPHANE WRAPPING				
PRODUCT	PRESENT ANNUAL CONSUMPTION	TYPE FILM (CODE)	R S C *	ANNUAL POTENTIAL
TOTAL				

R-12727-A

* R-ROLLS S-SHEETS C-CONVERTED

1. B. Loefflad

3. Made call with Ed Watson, Amsco Machine Company to follow up last call when we covered Simplex Machines.

Loefflad placed order for two Simplex Machines - delivery first of year 1948.

Will make double walled Cellophane bags - plain inside, printed outside.

We covered Cellophane situation and explained couldn't promise when we could supply plain Cellophane.

M1332

343

4971

Defendant's Exhibit No. 434

CELLOPHANE TRADE REPORT - EXTRA COPY

DUPONT

FIRST CALL ☐

CUSTOMER: hw LIK 'EM PEANUT COMPANY INC.
ST. AND NO.: 2515 Penn Ave.
CITY-ZONE-STATE: Pittsburgh 22, Penna.

SALESMAN: H. B. PUTNEY
DATE LAST REPORT: 10/31/47
DATE: 3/26/48
CONTROLLED BY PURCHASING AUTHORITY:
CLASS: 1-12
INDUSTRY: Nut - Candy

DU PONT CELLOPHANE SUPPLIER	USE THIS QTR.	COMPETITIVE MATERIALS MANUFACTURER	BUYS THROUGH	PT., MT., CA., ETC.	1ST QTR. PUR.	2ND QTR. PUR.	3RD QTR. PUR.	4TH QTR. PUR.
DU PONT	2,250	Sylvania	Crystal Tube	MT	2,000			
Milprint	750	"	Oneida	MT	4,000			
		"	Direct	MT	0			

REPORT CALL BELOW
SEE REVERSE SIDE FOR GUIDE

OFFICIALS	TITLE	INT'VD	MAIL TO	M. L. CHGE.
Ralph F. Leckey	Pres.	X	M	
Jos. Alterman	V.P.	X	MS	

PRODUCTS AND CELLOPHANE WRAPPING

PRODUCT	PRESENT ANNUAL CONSUMPTION	TYPE FILM (CODE)	R S C*	ANNUAL POTENTIAL
Nuts - Basket	5,000	52 & 2nds	C&S	5,000
" Bags	25,000	53	C&R	40,000
Nut Bars	2,000	52 & 2nds	C&S	2,000
Nuts-Display Cont.O'wrap	2,000	MST-2nds	S	2,000
Popcorn Balls	5,000	MSC-2nds	S	5,000
Candy - Carton O'wraps	3,000	MST-2nds	S	6,000
TOTAL				

B-12727-A

* R-ROLLS S-SHEETS C-CONVERTED

1. Bagged Nuts -- to urge purchase of Stokes Wrap and Simplex machines on cost saving basis - to urge double wall bags on all nut items - used cost study presentation and Simplex and Stokes wrap literature. Advised of 1,500 pound allotment in June.

2. Amazed at savings possible. Appreciated study and praised highly.

Will review and check our findings. Will examine machines at Packaging Show and consider placing orders. Simplex looks like first move. I am to sound out Milprint (present du Pont supplier) re ability to take on more printed roll business in June.

3. Nut Bars -- Have ordered Krimpac machine. This promoted by us first on 11/15/46 (see Trade Report that date).

Candy -- Plan new summer item. Tray overwrap in MST seconds. Will place order in April.

Oneida -- Received LMM bags so cloudy they look like Glassine. Sylyania film. After 3 months bickering, received very poor settlement - 50% of cost. Subject fed up.

M1333

4972

S#1

6-24 42	P	Randall, Harrison. Secured order. Discussed bag in box idea for their opinion and possible locale leads. Considerable interest; will check line for possible leads.
7-8 42	P	Randall. Explained priorities. Secured order. Suggested their getting into American, brick Swiss cheese in retail units wrapped in 300 MST. Profitable, conserve product and eliminate waste, etc. Interest; will experiment.
7-17- 42	P	Randall -- secured order -- suggested wild rice in cellophane bags-- will use.
7-28 42 EMW	P	Harrison, Pannkuk. Restated cheese cuts in 300 MST. Profit item, increased volume, economy of cheese. Still some interest; not ready to take action yet.
7-31 42	S	Randall. Figured sizes for new line of bags to be made of 300 MST 53 for use in local pkging. to supplement present 15-25. Secured order.
8-7 42	S	du Pont 6000. Randall. Assistance in figuring costs on 300 MST bags and setting up crimping operation instead of label and staples.
8-27 42	P	du Pont 4000. Harrison, Randall. Checked on pending order; presented samples of printed bags at their request for considering on candy line. Figured out type of bag. Arranged for convertor contact.
9-18 42	P	du Pont 3000. Harrison. Present situation on cellophane. Will cooperate.

M1330

841

CELLOPHANE TRADE REPORT - EXTRA COPY

DU PONT

FIRST CALL ☐

CUSTOMER: hw LIK 'EM PEANUT COMPANY INC.

SALESMAN: H. B. PUTNEY

DATE LAST REPORT: 4/20/48

ST. AND NO.: 2515 Penn Ave.

DATE: 5/17/48

CONTROLLED BY PURCHASING AUTHORITY:

CITY-ZONE-STATE: Pittsburgh, Penna.

CLASS: 1-12

INDUSTRY: Candy - Nut

DU PONT CELLOPHANE		COMPETITIVE MATERIALS						
SUPPLIER	USE THIS QTR.	MANUFACTURER	BUYS THROUGH	PT., MT., CA., ETC.	1ST QTR. PUR.	2ND QTR. PUR.	3RD QTR. PUR.	4TH QTR. PUR.
DU PONT	3,000	Sylvania	Crystal Tube	MT	2,000	2,000		
		"	Oneida	MT	4,000	4,000		
		"	Direct	MT	0	350		

REPORT CALL BELOW

SEE REVERSE SIDE FOR GUIDE

OFFICIALS	TITLE	INT'VD	MAIL TO	M. L. CHGE.
Ralph F. Leckey	Pres.	X		
Jos. Alterman	V.P.	X		

PRODUCTS AND CELLOPHANE WRAPPING				
PRODUCT	PRESENT ANNUAL CONSUMPTION	TYPE FILM (CODE)	R S C	ANNUAL POTENTIAL
TOTAL				

R-12727 A

* R-ROLLS S-SHEETS C-CONVERTED

1. Follow up Packaging Show visit and subject's action re:

   (a) Simplex - for nuts.
   (b) Stokes Wrap - for nuts.
   (c) Model K Kiss Wrappers - for candy.

2. (a-b) Have so much equipment on order now must hold off ordering. However, are fully convinced of advantages these machines. Will take action first opportunity - probably fall

   (c) Have ordered 3 Model K machines - October delivery. Will use Cellophane.

3. Nut Bars -- Krimpac machine received. Not in operation yet.

   Taffy -- Measured sizes 2 new packages and am forwarding sample sheets. May get June seconds order.

   Sylvania -- Subject placed case sheet order for May shipment - first since December 1948. Reason : gave Sylvania salesman a break. Covered all our assistance - Alterman promised not do again

M1334

4973

845

Defendant's Exhibit No. 435

Defendant's Exhibit No. 437

CONVERTER INDUSTRY DEVELOPMENT

(Printers, Bag, Envelope and Window Box Manufacturers)

This list contains the names of Converters added since 1944. This does not include window box manufacturers, who, previously were classed as Industrial Users and automatically became Converters on January 1, 1947.

Promotional Converter category was discontinued as of January 1, 1947.

Converters	Dun's Rating	1947 Sales	Estimated Consumption Sylvania 1947
1945			
Highland Supply Co.	D 1-1/2	36,205	39,000
Pollack Paper & Box	AAA 1	147,337	-
Printon Corp.	-	121,821	-
1946			
Action Bag & Envelope	-	8,355	6,000
Aladdin Products	-	6,862	-
A, ABA Cellophane Products Co.	G 3-1/2	5,668	-
American Cellophane Bag	-	996	-
Arnco Products	E 3-1/2	7,981	3,500
Badger Transparent Bag	-	6,546	-
Cello-Gravure Products	-	1,980	-
Cellophane Bag Co.	F 3	12,279	-
Celloprint Inc.	-	25,333	3,000
Cello Vision Products	-	17,828	-
General Waxed Paper	1	15,245	-
Kalamazoo Veg. Parchment Co.	AAA 1	13,070	-
Muller Paper Goods Co., Inc.	1	6,872	-

M1180

Converters	Dunn Rating	1947 Sales	Estimated Consumption Sylvania 1947
W. E. W. Container	H 3-1/2	7,160	6,000
1947			
Atlas Boxmakers	AAA 1	1,603	-
Bagphane Corp.	G 3-1/2	5,550	6,000
Clearview Bag Co.	H 3-1/2	2,383	-
A. G. Cloudsley Div.	D + 2	3,463	-
Day Mfg. Co.	C 1-1/2	778	-
L.L. Edwards	E 2	8,503	12,000
Industrial Cello Bag Co.	-	1,534	-
Kehr Paper Products Co.	B 1-1/2	542	69,000
Lassiter Press	B + 1	2,467	150,000
M. H. Levine Co.	D + 2	7,458	-
Marion Paper Box Co.	J 4	5,108	-
Modern Transparent Mfg. Co.	-	4,093	-
National Automotive Fabric	AAA 1	480	-
Rice, Trew & Rice	1	6,207	-
Roos Printery	-	321	-
Roto-Lith Ltd.	C 1-1/2	7,991	470,000
Rycap Corp.	-	4,048	4,500
Trans Flex Packages	F 3	4,923	-
Yorkville Paper	C + 2	39,129	240,000
Western Products	B 1	112,649	104,000
Industrial Plastics	1	21,793	-

Since 1936 only Converters buying from du Pont are shown on these lists.

M 1180

Defendant's Exhibit No. 438

C O P Y

DU PONT CELLOPHANE COMPANY, INC.

New York, N.Y.

BULLETIN NO. 211-D
November 16, 1928

TO ALL SALESMEN:

CONVERTED CELLOPHANE

The question of the activity of converters is of increasing importance and this has been covered at various meetings, but our attitude, evidently, is not understood thoroughly.

Our work as a Cellophane sales organization, is essentially the development of larger use and a greater diversity in the use of Cellophane.

Naturally, our first presentation is the value of Cellophane to our prospect in marketing his goods. Generally this includes the featuring of sheet Cellophane, whether Plain Transparent, Colored, etc.

As the proposition is developed, and you find converted or fabricated Cellophane is desirable to recommend, or when the customer demands it, you are in a position to suggest the best source of supply. And, this should be freely done.

In the final analysis, the customer should be satisfied and if he feels the convenience of converted or fabricated Cellophane compensates for the increased cost, be just as enthusiastic in your effort to get him started.

Remember, a Cellophane user should receive our full support, regardless of his source of supply.

Your Trade Record reports are designed to show source of supply, so you can easily register your progress with a concern by not only entering a statement of the new items released, but also under the heading of "estimated consumption," the amount of Cellophane business placed direct with the converter.

O. F. Benz
Director of Sales

OFB:EU

M 1155

Defendant's Exhibit No. 439

BULLETIN BOOK

BULLETIN

INFORMATION BULLETIN NO. 3-GG

11/8/31

TO ALL SALESMEN:

FOLDER FOR CONVERTED CELLOPHANE

There is an increasing interest in and demand for converted CELLOPHANE, printed, bags, envelopes, window cartons and combination wraps, etc.

It has been recognized you were handicapped in presenting suggestions on other than Plain Transparent but up to date we have not felt it possible to properly equip you with samples.

A new piece of equipment is being supplied you and it will carry CELLOPHANE bags, envelopes, etc., properly protected so you will have presentable samples to show at all times.

While the samples are by no means a complete assortment of converted CELLOPHANE items, they represent the most popular and will enable you to handle the great majority of prospects. New items will be sent you with bulletins from time to time as they are developed.

These samples have been supplied by a variety of convertors so it is not wise to single out one in any group to mention. No prices are given as we feel that convertors should quote direct.

When you wish to refer customers to convertors, you can use the new sheets recently sent you for your General Information Book, selecting the one or more most logically situated.

Inquiries will be handled as heretofore by requests on your trade reports. Previous bulletins have given you sufficient price information to develop the customer's interest.

The continual reductions in the price of CELLOPHANE and the machines developed by the convertors, have made possible many new items fabricated from CELLOPHANE. This has opened up new markets and will open up more.

M1160

DUPONT CELLOPHANE CO. 8 PARK AVE., NEW YORK CITY

All it needs is for you to thoroughly familiarize our prospects and customers with the variety of converted items and to promote their use whenever it is to the advantage of our trade.

It has been and still remains our policy to serve the customer to the best advantage, - if printed or converted CELLOPHANE is what he wants or needs it is your job to sell him on those.

This outfit is to make it easier for you to do a better job - use it.

O. F. Benz,
Director of Sales.

b

P.S. The folder is designed so that each pocket is removable and can be replaced when necessary and it is large enough so several more pockets can be added whenever needed. The pockets now contain the following items: -

Pockets #1 and #2	- both PT & MT Printed CELLOPHANE
Pocket #3	-CELLOPHANE bag (unprinted)
Pocket #4	-Printed CELLOPHANE bag
Pocket #5	-CELLOPHANE envelopes
Pocket #6	-combination wrap (printed)
Pockets #7 & #8	-combination bag.
Pocket #9	-window carton.
Pocket #10	-cigar tube.

M 1161

Defendant's Exhibit No. 440

COPY

BULLETIN

C. F. BROWN

INSTRUCTION BULLETIN NO. 22-L
May 8, 1936

CONVERTER RELATIONSHIPS

It has been stressed before that in your work and relationships with converter salesmen, you have an excellent opportunity to be the sales manager of your own territory.

As a neutral director of their efforts you can, with care, direct and coordinate their activities. Proper thought along these lines will go a long way towards developing harmonious relationships -- not only between each converter and our company, but also among the converters themselves. Furthermore, such direction will help them compete more efficiently with converters of competitive films.

Two factors should be watched particularly:

1. Know definitely which bag maker or printer is selling the account, and do not recommend another or bring another's salesman into the picture except with the approval of your district manager.
2. If the customer is using printed stock or bags of one type of "Cellophane" - say M.T., do not recommend another type of film - say M.S.T., without consulting the converter salesman first, either direct or through us.

   For example: It is very expensive for a converter to run 5 or 10 thousand bags for a test, particularly on a different type of film than the one he is already supplying to the customer for the same product. In

M1177

one case a converter had 100,000 printed bags ready for shipment and an unpaid bill for 100,000 more, yet on the recommendation of our man he was asked by the customer to supply 10,000 bags same size and design of a different type of film for test purposes.

Enough of the above situations have come up that we feel it necessary to consider more carefully the converter's interest. The more we maintain our position as efficient directors of converter effort in our individual territories, the more we shall have back of us a satisfied group supporting our efforts in developing our business.

C. F. Brown,
G. A. D. S.

M1177

Defendant's Exhibit No. 441

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE

"CELLOPHANE" DIVISION

April 30, 1941

TO: J. E. HATT

FROM: C. F. BROWN

Subject: INDIRECT SALES

As requested, herewith are notes concerning the attached reference letter.

In the second paragraph of Mr. Yerkes' letter of April 18, he raises two questions:-

1) "If our own sales force are not increasing our direct sales, outside the baking industry, how much are they contributing to the increase in indirect sales?"

2) "Over 50% of our entire converter business is in the hands of two people. Certainly our selfish aim should be to get a better distribution in both the promotional and other converter groups."

With regard to the first question, while there are admittedly several industries where progress in unconverted material has been currently unsatisfactory, there are a number outside the baking industry where important gains were made in 1940:

Cigars	increased	7%	(industry nearly saturated)
Candy	"	22%	
Chewing Gum	"	19%	
Crackers	"	30%	
Macaroni	"	18%	
Unclassified Foods	"	10%	(omitting loss of one account)
Hosiery	"	15%	

However, a better perspective and evaluation can be obtained by consideration of figures covering a somewhat longer period (1940 vs. 1935 are shown below).

Recognition of need for more intensive work in lagging industries has resulted in a program this year which is bringing encouraging results. (First Quarter 1941 vs. same period of 1940 also shown).

"Cellophane" is a trade mark and should be spelled with a capital "C"

R-12041

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE

"CELLOPHANE" DIVISION

	% Increase 1940 vs. 1935	% Increase 1st Quarter 1941 vs. 1940
Cigarettes	↑ 37.7	↑ 0.8
Cigars	↑ 32.1	↑ 19.7
Tobacco	↑ 89.5	↑ 16.2
Candy	↑ 68.8	↑ 11.9
Baked Goods	↑ 134.2	↑ 13.5
Meat	- 42.4	- 1.3
Macaroni	↑ 102.7	↑ 31.2
Tea & Coffee	↑ 90.7	↑ 12.0
Unclassified Food	↑ 106.0	↑ 2.1
Textiles	↑ 88.4	↑ 29.5
Hosiery	↑ 145.5	↑ 39.3
Perfumes, Soap	- 23.0	↑ 2.3
Drug	↑ 44.6	↑ 17.1
Rubber Goods	↑ 71.3	↑ 28.4
Paper Products	- 12.9	- 11.7
Miscellaneous	↑ 27.4	↑ 27.4

While the situation in the meat, paper and toilet goods industries is not yet satisfactory, our current picture elsewhere shows good improvement.

It is, of course, true our largest tonnage gains have been made in the baking industry as the result of intensive promotional effort in a market where opportunities are greatest, but it is also true the baking industry has represented the largest source of gain for agents and converters.

Note the following figures covering increases in sales to the baking industry (000's lbs. omitted):-

	Direct Sales		Agents & Converters	
	Pounds Inc.	% Inc.	Pounds Inc.	% Inc.
1940 vs. 1939	2,065	12.0	1,965	19.6
1939 vs. 1938	3,851	29.3	2,210	27.9
1938 vs. 1937	- 378	- 2.3	675	9.3
1937 vs. 1936	2,162	18.2	860	15.3
1936 vs. 1935	3,308	40.3	1,157	25.5

In the period 1935 - 1940, the baking industry accounted for approximately 55% of our total gains in direct sales, and nearly 47% of the total gains of agents and converters, notwithstanding the fact the converters have made most substantial growth in bag business outside the baking industry, (accounting for 50% of their total sales.) and are not penalized by the relatively stable cigarette industry.

M1012

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INCORPORATED
WILMINGTON, DELAWARE

"CELLOPHANE" DIVISION

The degree to which these gains in indirect sales to the baking industry compare with our own direct sales gains is illuminating and provides some of the best evidence of how our sales effort in the baking industry has contributed to the increase in indirect sales.

No exact measurement of how much our field force is contributing to converter growth is possible, but the fundamental point is the fact it has been our consistent policy to promote plain or converted sheeting entirely according to what represents the most logical application for a given item - whether in the baking industry or elsewhere.

There are several important factors which have a vital influence on the growth of converted "Cellophane" and therefore on the extent to which our field force are actively promoting printing and bags:

1. Normal development in the packaging art calling for better and more attractive packages.

2. Change and improvement in packages long on the market to guard against obsolescence.

3. Rapid growth in movement to inform the consumer ("informative labelling").

4. Tremendous growth of self-service in food stores resulting in transition from bulk to packages - principally bags.

(In addition, of course, is the fact that converted material comprises a much wider assortment of products than only plain sheets and rolls.)

It should be pointed out the field work of our men with regard to converters is not a question of selling for the converters - who out-man us in total 10 to 1, but directional work which points up opportunities and leads, lays the ground work and does the preliminary development.

It is hardly feasible to cite the hundreds of situations where sales effort of our men alone or in cooperation with converters has been the basis for developing numerous large units of converter business. One instance, however, is typical.

Nashua. This organization for some years was a two source of supply converter. In 1939, Nashua's last year on this basis, the converter sold approximately 350,000 lbs. including both DuPont and Sylvania. In 1940, the first year as a Promotional Converter, Nashua sold nearly 550,000 lbs. Hundreds of trade reports witness the fact field cooperation by our organization opened up many new directions of business, increased use with previously existing trade and in total was one of the principal contributors to this converter's progress.

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"CELLOPHANE" DIVISION

We do not believe there is important danger in the success of a limited group of converters, but it points out a definite direction and sets up an objective in our converter activities.

We do believe it proves the great advantage of the promotional type of operator - provides a pattern for others in the field.

Certainly our interest should not be to impede the progress of our best customers, but to work continually to develop others in the field to do a similarly good job.

This applies to converters now on our books as well as new converters whom we will select in the future with proper evaluation of their ability to build this type of operation.

Our objective, as Mr. Yerkes states, is to get better distribution - better distribution of our product on the part of those distributing it will bring a better distribution of the business.

CFB K

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M1012

E. I. DU PONT DE NEMOURS & COMPANY
WILMINGTON, DELAWARE

"CELLOPHANE" DIVISION

With regard to Mr. Yerkes' second question, concerning the concentration of a majority of converted business in the hands of the few:-

1. Shellmar, Milprint and Dobeckmun, in particular, were among the first to establish themselves in the field and to recognize the advantages of 100% cooperation with us.

2. They are without doubt the most capable organizations from every standpoint, and their more rapid growth is entirely expected.

3. The reasons they are more capable (and more valuable to us) are those which comprise our definition of a "promotional converter".

   They are specialists. Their entire efforts are devoted to transparent film. They have developed a specialist selling organization - not only concentrating on the sale of our product but trained to do creative work in the development of <u>new</u> business - to sell the <u>idea</u>, not just the commodity.

   As opposed to this type of operator are the old established paper converters (such as U. S. Envelope, Union Bag, Royal, Forbes, Dennison) whose primary interest is in paper with only a secondary interest in "Cellophane", a limited, if any, specialist selling organization, little if any ability of development work.

4. Owing to their ability and size, and especially due to their reputation or operation as <u>specialists</u>, they have been uniformly successful in obtaining the largest pieces of business - such as National Biscuit, Safeway, Kroger.

Over a period of years, the Converter Section has attempted to encourage various desirable converters to more aggressive specialist promotion, but for lack of ability to see possibilities, inability to build the proper type of sales organization, limited technical skill or other reasons, certain converters have not made expected progress. Dennison is a case in point. Several years ago, we assisted Dennison in laying out a complete program for printed sheeting but to date this converter has not been able to establish any large units of business, and in fact has lost ground on a relative basis.

M101

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Defendant's Exhibit No. 442

February 22, 1943

Mr. H. J. Neumiller
Humitube Manufacturing Co.
233 North Madison Street
Peoria, Illinois

Dear Mr. Neumiller:

It was nice to have a chat with you the other day and do hope this will occur often.

Doing business in these times is certainly unlike our operations in previous years and I can well appreciate your discussion with Mr. Miller and the questions you could ask yourselves about ways and means of fitting our product into the complicated mesh of today's activities. At any rate, I will try to specifically answer questions in your letter of February 18th.

For a long time our organization has attempted to have our men personally know the salesmen representing our converters and agents. They do meet these representatives in their respective territories and a nice majority of the converter men make it a point to phone our men so that they can get together and hash over their mutual problems. This gives both men the opportunity of reviewing the activity in a territory. Our men get directions that make it possible for them to tune in constructively with the efforts of a converter salesman and makes it possible for us to follow up such work to effect quick closing on converter business.

In the case of any individual, the benefits received from such discussions entirely depends on his resourcefulness to draw out desirable direction and then the ability to evaluate the opportunity for business so as to set up a personal plan of action. I have sat in on such discussions and they are constructive and especially helpful to both men.

You ask who develops the prospect. Certainly the converter salesman develops prospects as do our salesmen. From this you will see that the discussions mentioned make it possible for two men to set up a plan of action that can result in business. From my point of view it matters

C254-4a

GENERAL SALES OFFICE FILE COPY

little who develops the prospect, but of most importance would be a plan of action. A coordinated effort usually results in closing of business.

You ask whose product we use when tests are made and what technique is made for getting product for a test. Here again we have the importance of the men personally knowing and working with each other. Our men need the assistance of converter representatives and if a discussion has set up a plan of action they would bring into the picture such individuals who would arrange to secure the samples required for a test.

In other cases we have developments started with firms that are dealing with one or two converters presently. In such cases our men would suggest that the account get in touch with present sources of supply for samples to be used in test work. He would not drop it there but would make it a point to let both representatives know that the account was interested in a new development. In a case of this kind it is quite obvious that the first to follow up would doubtless get in on the ground floor of the development. From this you will see we try not to elect a source of supply but attempt to leave the decision to the account in question. You will readily appreciate this is the proper and fair procedure of treating with such cases.

From the above you will see that we pretty much put the burden on our men to get quick action and it is his responsibility to get results. Also, we expect him to follow up such tests so as to lend his background to prevent unnecessary failures. If a test does fail, then we want complete data as to the causes of failure.

It is my hope that this letter answers your questions satisfactorily and do want to assure you that our organization is more than eager to be helpful in developing business with your men.

With kind regards, I remain

Yours very truly,

C254-4B

E. M. WALLACE
Central Sales Manager

EMW:HD

Defendant's Exhibit No. 443

cc: J. H. HATT
[redacted]

June 7, 1940

TO: P. C. LAKE

FROM: C. F. BROWN

Subject: COST OF PRINTED "CELLOPHANE"

We recognize, of course, that the cost of printing is somewhat like the cost of a suit of clothes in that you can pay almost what you want to when it comes to quality work.

At the present stage of our business we are not essentially interested or concerned about the high quality classification of work. Our converters have done a splendid job and they can adequately handle this part of the market.

On the other hand, the greatest part of the present market and certainly by far the greatest part of future markets for printed "Cellophane" are in the direction of low cost, low priced work.

We are quite certain that our converters need to pay more attention to development and research work in the direction of reducing their manufacturing costs through improved equipment, higher speeds, greater manufacturing efficiency in order to bring their costs down to permit the identification of "Cellophane" wrapping at rock-bottom prices.

Up to this time it would seem fair to say that the bulk of their thinking and a large proportion of their expenditures have been along promotional lines and along the lines of new processes (such as laminating of various types), with always an emphasis on high quality work and new development - and a rather liberal attitude relative to the expenditure of money in directions that are not immediately productive.

While we recognize that this has been a definite contribution to the industry and has undoubtedly been an important factor in our own progress, nevertheless we have come to a cycle in our progress where a re-evaluation of various factors and expenditures is necessary.

We need lower prices of printed "Cellophane" in order to develop our markets and in order to compete in present markets. The first essential, in my opinion, is for the building of an attitude of mind on the part of our converters that they need to carefully review every expense of doing business with the idea of eliminating unproductive expense and reducing expense where the returns are doubtful.

Next we need to interest them in concentrating their effort on low cost

M 273

P. C. LAKE, 6/7/40

printing instead of quality printing on the basis that they have done the latter job but not the former.

To be specific, we need the cheapest possible printed identification for bread wrapping. We need effort on the cheapest form of aniline printing to reduce cost, increase speeds, even perhaps at the sacrifice of some quality.

We have considerable evidence that quite a few of our larger customers, who have undertaken the job of printing themselves are doing it at a very low figure, considerably lower than is indicated by the selling price of our converters. We are quite certain, also, that those operators who specialize in printed wax bread wraps have very much lower costs than indicated in the selling price of printed "Cellophane" bread wrappers.

Today the technique of printing "Cellophane" has been developed to a point where there should not be very much difference in the cost of operating a printing press as compared to paper.

I think there is very definite need for both you and myself to start a campaign to inculcate these ideas with our converters. As ammunition for us to use, I would like to have you make a rather thorough investigation with those of our converters who print wax bread wrappers, such as Nashua, Detroit Wax, and obtain from them their actual costs on their printing operation. We should also, through Mr. Russell, build up factual information regarding cost of printing by our consuming customers (attached memorandum covers a few).

It is quite possible our converters do not figure their costs accurately enough to know the difference, for instance, in the operating costs of their aniline process vs. their letterpress and gravure presses. Let's find out what they know and if it seems sketchy, interest them in setting up proper cost information.

We can visualize a huge market in the future in the bread industry and it would seem that it would be quite practical to develop cheap, high-speed printing to give the necessary identification at a lower cost than an additional band of printed paper, such as the Ad-Seal-It.

I would like to arrange to have an informal chat with both Dolan and Martin on this subject at the next opportunity. In the meantime, however, I would like to have you immediately start to collect information that we can use to convince them of the need for action along the lines mentioned.

CFB MGM

M 273

Defendant's Exhibit No. 444

SOME REMARKS MADE AT MEETING OF BOARD OF DIRECTORS, DU PONT CELLOPHANE COMPANY, INC. HELD ON THURSDAY, NOVEMBER 20, 1924.

SALES SITUATION

F.W.Pickard

It was found more difficult than anticipated to introduce cellophane in industries other than candy. These difficulties are gradually being overcome. In certain respects field has been limited because of these difficulties.

Also been handicapped with reference to wrapping machinery. Found it impossible to interest manufacturers. Two firms now trying to make a machine.

Also difficulty with printing and manufacture of envelopes.

All of these things are being worked on ~~very~~ intensively.

It looks as though development of real business is going to be delayed perhaps a year longer than we thought a year ago. Believe we will eventually work up to large sales.

Feel that price situation is not serious until we come to the stage of inducing people to use large quantities. Until we reach situation like that I think we can sell almost as much cellophane at present price as at 1/3 less.

One feature in the situation which is very gratifying to me is that sales force are picking up a large number of small accounts. Every new place it is introduced is a new centre from which the thing can spread. That aspect is very good indeed.

Advertising done this year has been quite well done and quite profitably done.

L.A.Yerkes:

Bag manufacturer in Connecticut has taken an actual order for 50,000 bags at a very small price, $1.85 per M. If that is successful it will be quite a good lead. Cheapest price before was $4,00 or $5.00 per M.

Have had trouble in getting right shade of black cellophane for millinery trade. They want a deep blue black. Have got shade now that they approve of.

In printing, the trouble has been with stretching and shrinking.

M1140

Defendant's Exhibit No. 115

EXTRACT FROM REPORT OF PRESIDENT TO

BOARD OF DIRECTORS

February 12, 1925

JANUARY SALES	36,306.24#	@ 2.397	$84,637.15
JANUARY PRODUCTION	20,172.44#	@ 2.2505	45,398.08
Finished Product Inventory		65,910.4#	116,111.52
Semi-Finished, in Rolls		59,223.63#	48,352.59

The sales in January as compared with December show a substantial increase. We are rather of the opinion that the sales in November and December were lower than they would have been had not dealers and others stocked too generously during the month of October which was our big month to date. The month brought forth no startling developments except that we do see an increase in the use of Cellophane as applied to some products of the bakery trade, such as cookies, etc. The machine which Ferguson and Haas Company have developed for the Pompeian Company at Cleveland has been installed at the latter's plant but has not yet been perfected to a point where it is entirely satisfactory. Ferguson and Haas, as well as ourselves, are cooperating closely with the Pompeian Company to get the machine on a satisfactory operating basis. We are hoping that something definite in respect to this can be reported upon by our next report.

You will find attached under Exhibit No. 6 the announcement letter that went out with the new price list which is attached to that exhibit. Our salesmen report a favorable reaction to the reduction among the trade, although nothing specific has developed in respect to new users because of this reduction. It is yet too early to see the effect the reduction in prices will have upon volume.

As the Board know, Mr. Benz in company with Mr. Piani left for France last month. Because of Mr. Benz's absence no steps have been taken towards adding two new jobbers on the Pacific Coast, a matter that will receive his consideration immediately upon his return.

There has been no definite progress made in regard to the printing of Cellophane. We have had a great number of printers working on the problem, but when we are in the position of developing a prospect that is definitely interested in printed goods we have not been able to get a printer to state satisfactory terms for the work. In order to get some definite and truthful opinion regarding this problem and the probable cost of job printing an appli-

M1142

to cellophane, we have consulted with the Manager of the Printing Division of the duPont Company who is now arranging to conduct numerous tests with the hope that they will develop sufficiently accurate information to enable us to quote on job work to the duPont Printing Department at least temporarily.

M1142

Defendant's Exhibit No. 446

DU PONT CELLOPHANE COMPANY, INC.
NEW YORK, N. Y.

BULLETIN #25-A
July 23, 1925

SUBJECT. CELLOPHANE BAGS AND ENVELOPES

TO ALL SALESMEN:

Here is an important message. Read it carefully and remember it in your presentation of Cellophane. It is what we have been waiting for.

During the past year or more, we have diligently searched for a concern who could manufacture Cellophane bags or envelopes by machinery.

Thousands of dollars have been expended in material and time with many and various concerns, but with one exception nothing was accomplished.

Within the last week, we have arranged with one of the substantial bag and envelope manufacturers to take over the fabrication of Cellophane.

As we have previously stated, our interest is in the sale of Cellophane in the form of sheets, rolls and discs. But - we recognize a very substantial business will follow when there is established a satisfactory source of supply for fabricated articles.

The American Paper Goods Company is the concern which has overcome the obstacle of handling Cellophane by machinery and we have arranged with them to take over all inquiries on bags and envelopes.

Our method will be to refer all inquiries and inquirers to the American Paper Goods Co. for direct handling except on certain sizes (listed below) which are powder puff bags and which we plan to carry as a standard stock item for the time being.

The American Paper Goods Company will purchase Cellophane from us, carrying a stock sufficient to be able to give customers service in addition to a complete price.

The range of sizes they can handle for the time being is necessarily small but they will probably increase it as they become more familiar with the handling of Cellophane.

For the present their machine limitations are 2½ x 2½" to 6½ x 8½". Propositions on other sizes will be considered on hand folding basis.

Quantity has a great deal to do with the price of machine made bags and envelopes as has the weight of Cellophane.

M1004

On other than powder puff bags as listed below, it is usually necessary to order 50,000 or more to get machine produced bags. This is true of powder puff bags too, but we can take care of those.

Whenever a concern asks about bags or wherever you find an opportunity to feature Cellophane bags, remember either have them write direct to the American Paper Goods Co., Kensington, Conn. or give you the information which you will send us covering the following points:

Dimensions of bag
Shape of bag
Size of flap, if any
Weight and kind of Cellophane
Quantity required at this time

All of this is important.

If they are using a bag now, endeavor to get a sample and send it along.

There have been a great many opportunities to sell Cellophane sidetracked as we had no satisfactory source of supply. Look over your route sheet book and cover promptly those accounts you know would be interested in the quantity of bags.

Keep a sharp watch for opportunities to suggest the use of Cellophane bags - some of the uses we have in mind are as follows:

Hard candies - Jelly beans - Mints, etc.
Nuts
Notion counter items, bias tape, gold pins, etc.
Novelties
Samples
Bakery items (small cakes, etc.)
Tooth Brushes
Combs

If there are any questions, let us hear from you promptly.

Yours very truly,

O. F. Benz

Sales Manager

STANDARD POWDER PUFF BAG SIZES

2-1/2 x 2-1/2"	3-1/2 x 3-1/2"	4-3/4 x 4-3/4"
2-3/4 x 2-3/4"	3-3/4 x 3-3/4"	5 x 5"
3 x 3"	4 x 4"	5-1/4 x 5-1/4"
3-1/4 x 3-1/4"	4-1/4" x 4-1/4"	5-1/2" x 5-1/2"
	4-1/2 x 4-1/2"	

M 1004

Defendant's Exhibit No. 447

DU PONT CELLOPHANE COMPANY, INC.

BUFFALO, N.Y.

November 18,1925

BULLETIN NO. 41 -A

TO ALL SALESMEN:

Subject: PRINTING and CELLOPHANE BOXES

A concern with whom we have been working for sometime has been successful in making Cellophane boxes, both the slip cover and folding type, and has done very well.

The tooth brush box folding type (No. 1800 Plain Transparent stock), of which we are sending you a sample, can be made up in quantities for about 3¢ each, including material, fabrication and printing in one color.

Another tooth brush box with a Cellophane slide cover (No.1200 stock) and paper board tray, like sample being sent you, can be had for about 3¢ each, in quantities, completely fabricated and printed in one color.

A telescope box (top and bottom) can be figured as per page 8 (or 10) of your price list. These are used for dried and stuffed fruits, nuts and candies.

These prices are merely estimates and the concern (listed below) should be written direct by the prospect or, if you will send us the information--quantity, size, character, weight of Cellophane to be used and printing requirements, if any--we will pass it along to them.

This concern has also furnished some printed Cellophane and seems to be able to handle the printing proposition in a commercial way at between 6¢ and 10¢ per M. square inches, for one color. However, this is an estimate and the inquiries should be handled as per the above outline for boxes.

Possibly you know of concerns in your territory who would be interested in any or all of these things. If so, send us the names and we will pass them along to the fabricators for follow-up.

Very truly yours,

O.F.BENZ

Sales Manager

Garwick Printing Company
198 Broome Street
New York City

C/O

M 1148

DU PONT CELLOPHANE COMPANY, INC.

BUFFALO, N.Y. March 18, 1926.

BULLETIN NO.18-B.

TO ALL SALESMEN:

SUBJECT - BAGS.

There seems to be some confusion as to the exact status of Cellophane envelopes and bags. As a result, the American Paper Goods have not been able to give some of your inquiries as complete or prompt handling as you expect.

As far as machine production is concerned, only one type of bag can be supplied; the envelope style, either with or without flap. For these it is necessary to have dies to cut out the blanks, which are later folded and glued by machine.

The American Paper Goods Company are gradually accumulating a stock of dies for certain sizes of bags, and quotations on these sizes will be found reasonable.

Quotations on small quantities of odd sizes are necessarily high since they bear the entire cost of the die. Prices on larger quantities, or repeat business would be more in line. When you have an inquiry for a particularly large envelope, or for one long and narrow, try to get definite quantities to be quoted on, and also get an idea of the yearly business, so the prices can be gauged accordingly.

The American Paper Goods Company will also make the square bottom bags, similar to those used for bath salts. These cannot be made by machine, but will be hand folded. This makes them relatively more expensive, of course, but they can be supplied where the product will stand the expense.

The grocery type of bag and the satchel bottom bag cannot be supplied. If you are confronted with these, try to persuade your customer to take a square bottom bag of the same capacity, if you feel that the cost will be justified, explaining that the present shape is not possible in Cellophane. The explanation will have to be made sooner or later; it is to your interest to make it before sending the sample in for prices.

The American Paper Goods Company are very willing to co-operate with us in the development of all possible Cellophane business. Like us, though, they don't like to be bothered with inquiries that are obviously non-productive. An intelligent sizing up of the situation at your end will help to keep them in the proper frame of mind to handle properly the inquiries we do send in.

Yours very truly,

O. F. Boss,

Sales Manager.

OFB/VB

M 1202

Defendant's Exhibit No. 449

DU PONT CELLOPHANE COMPANY, INC.
NEW YORK, N. Y.

BULLETIN NO. 88-C

June 20,1927

TO ALL SALESMEN:

Subject: MILWAUKEE PRINTING COMPANY

The above organization, in Milwaukee, have been playing around with 'Cellophane' for a couple of years, but have never really gotten to printing it until recently.

They have evidently made sufficient progress and feel sufficiently confident of their ability to do a good job, to tell us they are going ahead on a real basis.

The first order they placed for 'Cellophane' was quite substantial and they expect additional orders will come along regularly.

This particular concern is one of the largest printers of glassine paper in the country - they specialize on that,-altho they do other types of printing. It is the glassine candy wrap that represents the bulk of their business.

They, of course, have been looking at 'Cellophane' longingly for sometime and, as above referred to, have been working with it for a matter of a couple of years.

There is no question but that their sales organization are going to do a lot of talking on printed 'Cellophane' to the candy industry, and we want them to talk in the right direction.

For that reason, we have gotten a list of their representatives and ask that you get in touch with these men at your earliest convenience, introduce yourself and tell them as much as you can about the use of 'Cellophane' in the candy industry, its value and where you think it fits with the candy concerns you cover. Keep in mind especially, the small unit candy business.

Help these Milwaukee Printing Company in figuring our price list and cooperate with them to the fullest extent.

Report in a separate letter, to the writer, the result of your talk with them and give us any suggestions that you consider desirable which will help us work in the right direction with this particular organization.

O. F. BENZ

Sales Manager

M1149

DU PONT CELLOPHANE COMPANY, INC.
NEW YORK, N. Y.

P.S. It will not be necessary for you to personally contact with their New York representative, as this will be done by Mr. Horsey. Should you have any printing propositions that look interesting, you had better refer them to this office and we will decide from the size, character and other considerations whether or not to bring this organization in on the proposition or turn it over to the local printer.

M1149

Defendant's Exhibit No. 450

C O P Y

DU PONT CELLOPHANE COMPANY, INC.

New York, N.Y.

BULLETIN NO.1

September 26, 1927

TO ALL SALESMEN
New York District

SUBJECT: MOISTUREPROOF ENVELOPES

From time to time we have requested the American Paper Goods Company to quote various concerns on Moistureproof envelopes, as indications were at that time that they would be able to do a satisfactory job. However, when going into the matter in detail they find that they would probably run into some difficulty and have advised us that further experiment work is necessary. Meanwhile refer to us any inquiries on Moistureproof envelopes.

They have requested us to be very careful not to take firm orders on any of the items on which we may have quoted.

You will be advised just as soon as they are in a position to accept and fill orders on Moistureproof envelopes.

E. C. LAKE

District Sales Manager

ECL:KAC

M 1150

Defendant's Exhibit No. 451

EXCERPT FROM:- November 12, 1928

MINUTES OF SALES MEETING HELD IN NEW YORK

OCTOBER 20, 1928

"Mr. Benz displayed samples of the Shellmar type of wrap and explained that these people are only getting under way and that even at this time, they have a great amount of business. This type of wrap is used on cookies, cakes and candy bars. The advantage of this wrap is that you have a printed wrapper with part Cellophane at about ten or fifteen percent below the price of regular material.

This type of wrapper can be supplied in bags, either of parchment, plain or glassine or can be worked up into tubes. Mr. Benz closed his remarks with the statement that our thinking and action along these lines must be on a very broad scale. We consider this type of wrapping material an addition and are not concerned about the loss of business."

M 1154

Defendant's Exhibit No. 453

C O P Y

DU PONT CELLOPHANE COMPANY, INC. Defendant's Exhibit No. 421

New York, N.Y.

INSTRUCTION BULLETIN 131-E
July 30, 1929

DOBECKMUN CIGAR BAGS

TO ALL SALESMEN:

The production facilities of the Dobeckmun Company have been increased to the point when they can now fill orders for the single cigar tubes and we are assured reasonably prompt shipment can be made.

More good news, is the announcement by the Dobeckmun Company that a substantial price reduction has recently been made effective. As the new prices are based on the amount of Cellophane used, it is impossible to give you any definite price list.

In all cases, where samples and quotations are desired, obtain a full box of the cigars, forwarding them to New York Office. We will have Dobeckmun package them and quote. If the cigar manufacturer prefers to forward the box direct to Dobeckmun it is satisfactory to us, but so state on your trade report.

Dobeckmun will also be in a position very soon, to supply Moistureproof bags for units of from 3 to 5 cigars.

In all cases where a Moistureproof bag is preferred to a wrap for such units forward a full box of cigars as usual stating the number of cigars to the unit desired also the quantities on which a quotation is desired.

The Dobeckmun containers make a very attractive package and the experience of those concerns who at present are useing them has proven to us that they are a very valuable asset in the merchandising of cigars.

You can rest assured that you will receive all the cooperation possible from the Dobeckmun Company on any enquiries or concerns in whom we may have a mutual interest.

O. F. RENZ,
Director of Sales.

OFB.EH

M 1159

Defendant's Exhibit No. 454

BULLETIN

INFORMATION BULLETIN NO. 76-FF

November 6th, 1930

TO ALL SALESMEN:

PROMOTION OF CELLOPHANE BAGS.

Recent developments, particularly in the middle west, have indicated that there is a very large market for the use of CELLOPHANE bags by the retail trade in packaging themselves bulk products delivered to them by wholesalers or manufacturers.

Many retail grocery stores, both chain and independent, are in the habit now of packaging bulk products in glassine bags.

Ordinarily, this is done early in the morning by the sales clerks before their customers start coming into the store. Usually only one day's supply is made up at a time.

Many of such retailers are now using machine made, single-wall, one lb. CELLOPHANE bags in place of glassine bags with great success. They are wrapping beans, rice, other dried vegetables, prunes, apricots, raisons, cranberries, candy.

The result of this change from glassine to CELLOPHANE indicates a turn-over from two to six times more rapid on these products than when previously wrapped in glassine, in spite of the fact that these retailers are ordinarily charging one cent more, which about covers the cost of the CELLOPHANE bag.

It is estimated that the average retail grocery store will use about 3000 bags per month or about $350.00 of bags per year, which you will see, runs into quite a considerable volume, if this practice is expanded throughout the industry. There are a total of over 300,000 retail grocers of which 65,000 are chain stores. The possible consumption of CELLOPHANE bags of these chain stores alone would amount to over $20,000,000 a year.

There are three principal markets which could be covered:-

MARKET #1.

Manufacturers of bulk products - with the idea of having them purchase CELLOPHANE bags to be shipped flat to the retailer with his orders. These bags could be printed (only one color at present) with the manufacturers advertising.

M1159

DUPONT CELLOPHANE CO. 8 DARK AVE., NEW YORK CITY

MARKET #2

Large wholesale grocers. Same use.

MARKET #3

Headquartors of chain stores. Purchase for use by their branches.

MARKET #4

Individual, independent grocery or chain stores.

Markets #1 and #2 are logical for us to cover to the extent we are covering them now. In other words, present this proposition to the accounts in those categories on which you are now calling. Approcah it as a service feature for them that would be of tremendous value to their retail customers in speeding up the turnover of their products, besides being a most effective advertising tool, if the bags are printed with the manufacturer's or wholesale grocer's trade mark.

Market #3 can be covered on the same basis - i. e. chains now being contacted. The argument here of course is added volume and quicker turnover of present bulk products, even at a price increase to cover extra cost of CELLOPHANE.

Market #4 is not practical for us to cover at this time, except in isolated cases where a salesman is stuck in a small town waiting for train connections.

We propose to induce our convertors who make these bags to work up a similar sales campaign so that their salesmen will operate along the same lines.

These single-wall bags we believe will be satisfactory from a service standpoint, inasmuch as the bags when filled are not shipped but are sold at the point where they are packed.

We are recommending the Dobeckmun Company as a source of supply for these bags. For prices and samples see Bulletin # 77-FF.

O. F. Benz,
Director of Sales.

b

M1159

✓ Defendant's Exhibit No. 491

SEC 10 2-36

NOV 1

CONVERTER AND INDUSTRIAL TRADE REPORT

Cellophane

TW 1/2 - C 3/4

DUPONT

Representative F. B. Dadmun Date 11/20/39 No. 145

Firm HOUSTON PAPER COMPANY Bus. Resale Class 3-1

St. and No. 1921 Franklin St. City Houston, State Texas.

Controlled by

Final Decision by H. Maltz, Pres. Contacted on this call? Yes

Men in'td and Titles

Transparent Sheeting Used				Bo't from	Estimated Consumption—Lbs. This Quarter	Next Quarter
300	P.T.	Emb.	2nds	Sylvania	6,000 per yr.	
490	P.C.	Sheets	Special:	Fryd Ribbon - Scotch tape		
600	M.T.	Rolls		Oneida bags.		
H.W.	M.C.	1s				

If using competitive material, give specific reasons: See below

Present uses for Cellophane:

Contemplated uses for Cellophane:

Sales Promotional Material used on this call:

Agreement account? No

Discount basis?

Order secured? No If not, when?

Approx. date next call?

Date of Last Call	Date Report Rec'd	Date Typed
7/27/39	11/28/39	11/29/39 Way

(Answer each question numerically below.)

1. What, kind, quantity, specifications and date samples were sent?
2. State briefly their progress to date.
3. If industrial difficulties experienced
   (a) What are their plans to overcome?
4. What are their plans for sales promotion?
5. What have we offered as a plan for competitive sales promotion?
6. What is your plan for next call?
7. Have [illegible] any additional important information

Defendant's Exhibit No. 492

CC: D. L. Shoop

January 30, 1940.

TO: L. J. HARTE,
CHICAGO.

FROM: E. B. ICHLA

Recently we sent you a revised list of jobber, actively cooperating with us in the sale of "Cellophane" in small quantities.

Through an oversight, the name of the Houston Paper Company, Houston, Texas, remained on this list, but should be omitted since they are now handling competitive film.

Will you therefore please remove this name from that list?

EBI:COR

FILE
E. B. ICHLA

13
6197

Def P 9-Cg 16
11-27-41

Defendant's Exhibit No. 496

December 28, 1943

JOBBER SALES

We have had distribution, other than direct, through agents, etc, but merely on the basis of servicing "small trade" which we could not afford to cover, and their future in the scheme of distribution may be questioned.

This took the natural path of small industrial business, merely duplicating our distribution, covering a segment of our logical markets.

Inevitably this type of distribution has come into conflict with our own policy and not only represents considerable duplication but because of limitations does not offer an attractive market opportunity to the jobber.

Our sales management group agrees that we should build our industrial business direct - that we cannot rely on the jobber to do it for us, and that therefore perhaps he should not be put in a position to handle case lots of standard film.

Has the jobber a more important place in the scheme of distribution? If so, what is it and how can it best be developed? That is what we want to determine for our post-war program.

Our belief is that it lies in an entirely new direction - the retail market rather than the industrial - in the hundreds of thousands of stores, shops and offices of all types that use wrapping materials for a wide variety of uses, and through these stores the millions of homes which also use wrapping materials.

We know very little about this huge market and need to investigate it thoroughly, and find out just where we fit - then make it easy for any one to buy Cellophane locally.

As we see it, there are two parts to this market; (1) for store and shop use and (2) for resale to consumers by retail stores.

We envision the development of two lines of merchandise - including

M1237

converted and fabricated items for these two markets.

What are the best types of jobbers or dealers to do the job? We have essentially worked with paper jobbers, but there may be better types. Should they be big operators covering large sections or small operators who specialize in purely local distribution?

Perhaps the jobber has other and even better markets - we don't know. We should get his ideas, bearing in mind we are not in every case willing to have him develop case lot industrial business.

On the other hand, may be there are certain sections of the country or certain markets which we would be willing to turn over entirely to the jobber (as in the case of milk bottle hoods).

The job breaks down into two parts:

1. Market research culminating in the establishment of a policy and a line of merchandise.
2. Selling this new jobber proposition together with the needed cooperative field work to demonstrate its value.

Due to the Limitation Order we cannot proceed to the second stage for some time, but we can complete the first stage and be ready.

Possibly our investigation will disclose opportunities for a few experimental operations during the war based on permissible uses - that is to be determined.

The main job now is to intensively study the jobber and/or paper dealer markets for Cellophane and determine a post-war policy and a post-war program of operation, sufficiently confirmed, at least by discussion, to convince ourselves we are properly prepared to go into action when the green light goes up.

The initial steps would seem to be field surveys with

1. Retail trade of all types.

   This will provide information to put us in a position to talk to

2. Jobbers of all types.

M1237

Attached are rough suggestions as to the information to be gathered.

Defendant's Exhibit No. 497

BULLETIN

INFORMATION BULLETIN NO. 200

December 31, 1943.

ORGANIZATION CHANGES

Effective January 1, 1944, E. M. Wallace is appointed District Manager, Jobber Sales, reporting to the Sales Manager, Direct Sales.

His assignment is to study the markets for Cellophane through jobber distribution, to formulate a jobber program for post-war, and to develop jobber distribution and sales, working with and through the District Managers. His headquarters will remain in Chicago.

R. R. Smith, Assistant District Sales Manager, is appointed Central District Sales Manager, vice Mr. Wallace.

W. J. Harte,
SALES MANAGER.

W

M 1338

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

"CELLOPHANE" DIVISION

Defendant's Exhibit No. 498

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
111 W. WASHINGTON STREET
CHICAGO, ILL.

"CELLOPHANE" DIVISION
MANUFACTURERS OF CELLULOSE FILM

January 6th, 1944

ANSWER
I
W J HARTE

TO W. J. Harte

FROM E. K. Wallace

Would it be possible for you to secure for me Converter pricelists on the various resale items. Also, you may have available data on their jobber proposition. In other words, I want to make a study of the profit phase treating with the distribution of such items. Even if an item has been ruled out now by Limitation Order L 20, I would like to have the 1941 status.

It may be that some of the converters have special arrangements with so called Agents, which would further reduce a cost below what might be termed as a jobber's price. If this is true, I would like to have the pricing structure.

Thanks for this help.

M1239

"Cellophane" is a trade-mark and should be spelled with a capital "C"

Defendant's Exhibit No. 499

April 19th, 1944

Mr. Roy E Hanson, Vice President,
MILPRINT, INCORPORATED,
431 West Florida Street,
Milwaukee 1, Wisconsin

Mr. R. M. Wallace,
E. I. DU PONT DE NEMOURS & CO.
[illegible] West Washington Street,
Chicago 2, Illinois

FILE COPY

Dear Roy:

As you may or may not know, Mr. Wallace is conducting a post-war jobber investigational program on Cellophane and various items made from it.

Would you be good enough to send him (in duplicate) properly labeled cartons for the jobber units of your most popular 1-pound stock bags? (The bags to go in the cartons are not necessary?) While not certain, the writer feels sure the carton itself will indicate whether the bag is a satchel-bottom, printed or otherwise. If you have moistureproof stock bags, the writer suggests that you include these as well.

With these cartons, will you be good enough to send Mr. Wallace your jobber price list applying in various quantities for his information.

Mr. Lake and the writer would very much appreciate it if you would furnish us with a duplicate set, one sample only, of the same things you send to Mr. Wallace.

Cordially yours,

B. C. Robbins.

BCR:mew

M1242

Defendant's Exhibit No. 500

CC: W. J. Harte

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
351 CALIFORNIA STREET
SAN FRANCISCO, CAL.

CELLOPHANE DIVISION

San Francisco, California
June 17.....1949

C. F. Brown,
Wilmington

Here is our 1948 file on Jobbers. There were six (6) inquiries by mail. In each case our reply is attached to the inquiry.

Likewise there was one (1) inquiry in 1947 which we are also sending.

In the past four years (since I have been here) we have had probably another six (6) verbal phone or personal contact inquiries. These were handled essentially on the same basis as the letters -- a friendly demand-supply answer.

Of course, now we are taking on all comers.

W. C. Lock

WCL:k
Encl.

M1019

Correspondence attached to this letter returned to W.C.L. 6/20/49. (CMF)

Discount basis?

Order secured? No If not, when?

Approx. date next call?

Date of Last Call	Date Report Rec'd	Date Typed
7/27/39	11/28/39	11/29/39 Way

(Answer each question numerically below.)

1. What, kind, quantity, specifications and date samples were sent?
2. State briefly their progress to date.
3. If technical difficulties experienced
   (a) What are their plans to overcome?
   (b) What logical help can we render?
4. How will their product be marketed?
5. What are their plans for sales promotion?
6. What have we offered as a plan for cooperative sales promotion?
7. What is your plan for next call?
8. State briefly any additional important information developed.
9. Who should receive copies of this report?

8. Talked along lines of previous call with Mr. Maltz. He is purchasing his film from Sylvania, but is willing to give us part of the business. Claims he gets better service from Dallas. Pointed out at writer's last call he was to decide at this visit if he prefered to work with us or with Sylvania because of certain reasons.

He remarked he could not promise to work exclusively with us as he did not do this with any other mill he does business with. Explained to him why it was not satisfactory to handle two kinds of film either for him or for us.

Because of the reputation and character of this firm, the writer did not urge them beyond a reasonable amount. Do not feel they can help us much, as Magnolia Paper Co. contacts same trade in pushing "Cellophane".

Mr. Maltz offered to give writer an order, but writer turned it down, explaining matter was discussed fully with him last visit. (Ichla: Will you please see that any order placed by subject firm are not shipped and that he is taken off our list of jobbers?)

The poundage we may lose should be very small.

9. E. B. Ichla - E. C. Lake
E. C. Robbins
F. B. Dadmun

M1015

Defendant's Exhibit No. 502

Jan. 1947

E. I. DU PONT DE NEMOURS & COMPANY (INC.)

Manufacturers of

CELLOPHANE DIVISION DU PONT Cellophane *WILMINGTON 98, DELAWARE*

CONDITIONS COVERING USE OF STANDARD CELLOPHANE LABEL

E. I. du Pont de Nemours & Company will permit the use of its Standard Label (shown above) by any customer upon the conditions set forth below:

1. Reproduction. The label shall be used only in the exact form in which it appears above, including colors, shades and white lettering, the proportions remaining the same if the size is varied.

2. Identification of User. The function and name of the user shall be made clear in each instance through the use of an appropriate phrase such as "made with," "made of" or "printed on" appearing above the label and a phrase such as "printed by," "distributed by," "sold by" followed by the customer's name below the label.

3. Identification of Product. DU PONT shall be permitted to determine through inspection at reasonable intervals that customer is using the label on DU PONT cellophane only.

4. Approval of Form.
   (a) Each new form of label shall be approved by DU PONT in finished sketch form before printing proofs are ordered.
   (b) Each new use of the label shall be first approved by DU PONT.

5. Discontinuance. DU PONT shall have the right to terminate the privilege hereby granted at any time upon the breach of any of the conditions set forth herein.

It is understood that the foregoing conditions supersede any which may have been in existence prior to the date hereof.

The undersigned, on behalf of itself and its subsidiaries and affiliates, hereby accepts all of the foregoing conditions and agrees to use said Standard Label only in conformity therewith.

.....

By: .....

Date .....

M4199

DUPONT

BETTER THINGS *for* BETTER LIVING THROUGH CHEMISTRY

Defendant's Exhibit No. 503

FILE

October 10, 1947

BRIGHT TIME BAG COMPANY,
39 East 20th Street,
New York 3, New York.

Attention: Mr. Aaron L. Seidman

Dear Mr. Seidman:

The widespread publicity being given to our Standard Label through use in our national consumer advertising and promotional material has, we feel, been of considerable value to our many customers who use this distinctive red, white and blue label to identify their products made of Du Pont Cellophane.

It is quite necessary, however, that reproductions of this Standard Label be in the proper colors and proportions. As a guide in this direction, we are enclosing a proof sheet illustrating the various sizes of electros available, as well as the shades of red and blue to be used. If a size other than that illustrated is desired, please be certain that proportionate dimensions and proper colors are used.

As you will notice from your copy of "Conditions Covering Use of Standard Cellophane Label", the function of the user should always be made clear through the use of an appropriate phrase such as "made with", "made of", etc., appearing above the label, and "printed by", "distributed by", etc., followed by your name below the label. Such identification will eliminate any possible misunderstanding on the part of your trade.

This present Standard Label was adopted in the Spring of 1942 and, at that time, we requested that use of a former label with different wording be discontinued. We presume that by now you will have entirely used up any pre-war labels, cartons, stationery, etc., bearing this obsolete label. We would, however, like you to check on this point and advise us of any exceptions.

M4200

In closing, we feel that your interest in properly using our Standard Label to identify your products made of Du Pont Cellophane will enable you to benefit to the maximum extent from the consumer and trade publicity that we have carried on over a period of years.

Cordially yours,

E. C. Lake, Manager,
INDIRECT SALES.

ECL:tr
attachment

P.S. We would suggest that the words "converters of" be printed on your calling cards above the standard label just as they are on your letterheads and invoices.

M4200

Defendant's Exhibit No. 503

October 17, 1925

Mr. O. F. Benz,
Sales Manager.

Mr. Cullen handed to us today your inquiry of the 16th. regarding the transparent material which was submitted to you by Euler. We presume that you refer to the sample of so-called German cellophane which Mr. Cullen submitted to us during July. We reported the results from these tests to Mr. Cullen under date of August 3 with a copy to yourself indicating briefly the following characteristics. The glycerin percent in the German sample was very low and taking this into consideration the film would have strength characteristics considerably inferior to ours on the basis of equal glycerin contents. Actually the films tested compared very favorably with ours, except in elongation and the fact that the film was somewhat brittle.

The chemical analysis explains the slipperiness of the German film in that it contains approximately 3 times the amount of mineral matter that our own material does. Compared with our own film the alkalinity is quite high. It is apparent that an excess of bicarbonate is present, probably in the form of calcium and magnesium carbonates or bicarbonates. From the standpoint of appearance, the film was very badly discolored and poorly cast. The film contained many lip streaks and small bubbles as well as holes entirely thru the film. As regards strength characteristics, the bursting strength and tenacities are passable, but the elongations are prohibitively low.

Ernest B. Benger,
Chemical Director,
By:- W.

HPW:KK

M1359

Defendant's Exhibit No. 506

C-10 → { ~~Mr. Lee~~ / Miss Cole

January 27, 1926

Mr. B. F. May,
Vice President.

Subject: German Cellophane

The sample of film submitted by Mr. [illegible] W. Sawyer is "Cellophane" in so far as it consists of regenerated cellulose.

The material is dry and brittle due to the fact that it contains little or no glycerine. The thickness is uneven, varying from .001" to .0015". The bursting strength varies according to the thickness from 30' to 52', per square inch. There is practically no elongation under stress up to the breaking point. The appearance is poor and the presence of bubbles indicate that the viscose was probably coagulated in an acid bath.

Mr. Ernst states that the French companies have in the past received samples of the same or very similar material, and that they were unable to learn where it originated, further than that it came from Germany. When received by the French, this film is always in strips which never exceed a foot in width.

Unless the quality of this film can be improved very greatly, there should be little to fear from it as a competitor for our product.

Chemical Division

Per: PFW
P. F. Webster

PFW:MGH

M1360 (83)

FILE COPY

Defendant's Exhibit No. 507

DU PONT CELLOPHANE COMPANY, INC.

NEW YORK, N. Y.

BULLETIN NO. 130-B.

December 14, 1926.

TO ALL SALESMEN:

Subject - IMPORTED "CELLOPHANE."

There has been a lot of chatter about Imported "Cellophane." Purchasing Agents and others are telling us how they are buying and how good it is.

However, our observation has been that we are being kidded a bit and that the actual sale of imported Transparent material of the character of "Cellophane" is insignificant.

The importers who are doing the most talking are those who were turned down when the Du Pont Cellophane Company took over the American rights for the manufacture and sale of "Cellophane."

These concerns have been very much disturbed during the past couple of years because they could not secure jobber's prices on "Cellophane."

After considerable effort, they have located a small source of supply of Transparent material, and in order to sell it, are quoting just a little below our list price and practically each concern is quoted a different price.

No new business is being developed. They are just covering those concerns using "Cellophane", - in other words, merely parasites.

You will be interested to know these same concerns sold "Cellophane" prior to our coming into the field and we know, if they were handling it today and we were not in the field, they would be charging the same price as was charged those days. When we took over "Cellophane", the price was $2.50 per pound, today it is $1.60 per pound.

Another interesting fact is that they could sell the imported material for considerably less than they have been asking, due to the low production cost of foreign products as compared with American production costs, but they will not do it. All they want to do is to quote a quarter of a cent less than our price and, as we said before, no concern who buys from them is assured they are being quoted the same price as their competitors.

Do not let anyone "bulldoze" you on this proposition and while we do not want to wave the American flag, there is no question but that we hold

M 854A

DUPONT
CELLOPHANE
Reg. U.S. Pat. Off. and Canada

DU PONT CELLOPHANE COMPANY, INC.

NEW YORK, N. Y.

a tenable position in the matter.

Here is our policy:

A - A printed price list and everyone assured of the same price.

B - A price reduction policy based on anticipated increased business and not on past business or competition.

C - A name which we think enough of to trade mark and copyright.

D - Advertising program - consumer, trade paper and direct mail which will increase the acceptance of "Cellophane" wrapped products by the general public, to the benefit of the "Cellophane" user as much or more than to ourselves.

E - A development on missionary work which cannot help but improve their individual situation by reducing their cost of material or handling and release of new items.

F - A standard package of well cut and triple-checked counted sheets, satisfactorily packaged for shipment.

G - Last, but not least, a constantly improved product.

Remember, we have reduced the selling price of "Cellophane" about 25% in the past two years without solicitation but on recognition of the fact that reduced prices would increase the use of "Cellophane" on present established packages and open up new items.

Very truly yours,

O. F. Benz

Sales Manager

CFB/e

Defendant's Exhibit No. 509

BULLETIN BOOK

DU PONT CELLOPHANE

DU PONT CEL. PHANE COMPANY, INC.

NEW YORK, N. Y. BULLETIN NO. 137-D

July 10, 1928

TO ALL SALESMEN:

COMPETITIVE SALES TALK

Reports coming in from the field indicate that our competitors must be finding the going rather hard, and have lately been broadcasting some wild statements concerning the relative merits of their proposition versus ours. You may have already heard some or all of these stories, but in case you haven't, we are giving them herewith, together with the actual facts concerned.

1. Superior Norwegian Pulp Being Used.

Competitive representatives are drawing attention to the fact that their material is made from Norwegian Pulp, which they indicate is considerably superior to anything that we might possibly be using.

On this point, the Chemical Department has this to say: Du Pont "Cellophane" is made from the finest grade of American Pulp, know as Riordan Pulp, which according to leading paper authorities, is the finest type of pulp available; so fine, in fact, that it is not only used in tremendous quantities here in America, but it is also imported by leading users in Europe. This would indicate quite conclusively as to the relative merits of the pulp in question.

2. Fire Hazard of Moistureproof Cellophane

The advent of Moistureproof "Cellophane" has evidently caused competition some little concern, so that they are now spreading the rumor that there is a fire hazard connected with it.

This rumor is centered about the fact that one of our Pittsburgh customers, who has been using Moistureproof "Cellophane" in a small way, recently had a fire, and our competitor has whispered that it originated from the Moistureproof "Cellophane" "exploding".

Not only did the customer definitely state that Moistureproof "Cellophane" had nothing whatever to do with the fire, but in addition, the Fire Underwriters Laboratories in Chicago, three months ago made the following report:

M 863

DUPONT CELLOPHANE

DU PONT CELLOPHANE COMPANY, INC.

NEW YORK, N. Y.

Fire Hazard of Moistureproof Cellophane

"The fire hazard involved in the storage and use of this material is judged to be the same as that of common news print paper, in the same form and quantity.

"This conclusion is based on results of the power of ignition, ease of ignition, and inflammability tests".

This convincing data should serve to squelch the competitive story.

3. Special Discount to Meat Packing Institute Members.

Some time ago, competition advised those meat packers who are members of the Institute that they would be favored with a special 5% cash discount, instead of the usual 2%. This, of course, flattered the Institute members, and when we would not make similar concessions, caused some of them to lean towards the importers.

These Institute members would, perhaps, be interested to know that the same 5% discount can be obtained by packers who are not members of this organization, and anyone else in fact, as you probably know, so really, being an Institute member means nothing at all, as far as the supposed concession is concerned.

We must furthermore, drive home that after all, what interests the packer most, is his actual net cost. Instead of merely meeting the competitive discount of 3% extra. (their 5% less our 2%), we, on June 1st., announced an 8% reduction, passing on to the users of "Cellophane", the full benefit derived from increased production.

4. Competitive Seconds.

Competition has also recently intorudced "seconds", which, from our observation, are "seconds" in name only, as they have all the quality and characteristics of their "firsts". These, being sold with 20% off, seem to be a very good buy, but when you weigh them up, you will find they are approximately 25% lighter in weight than their regular material. Of course we should capitalize on this with those competitive accounts who are getting these so-called "seconds".

M863

5. Tariff

They are also spreading the word that we are attempting to get an increase in the tariff, and just as soon as we do, up will go the price of "Cellophane", and that they are fighting to keep it down.

It is somewhat difficult to give you a picture of this on paper, but when they had the exclusive importing rights, they prevailed on the Government to take "Cellophane" out of the classification where it is definitely named, and put it in with gelatine in sheets, which had a lower duty.

Did they reduce the price of "Cellophane" to the user when they accomplished this? NO!! Importers have never, in the fifteen years they handled "Cellophane", made a reduction in price, except when forced to by us - all statements to the contrary notwithstanding.

Now then, all we are attempting to do is to put "Cellophane" into the proper classification which is as much for our protection, in other directions, as it is on price.

Our policy has not changed on price reductions, which is - as we increase the business, and can make production savings, we will decrease the price to the user.

Do you see the logic, then, of our statement that the more business given competitors - who never reduce the price - the longer it takes Du Pont to reach the various volume goals necessary for further price reductions.

You are not going to get this story over to narrow-gauge purchasing agents, or employers generally. It must be presented and reiterated to the broad-gauge executives.

These points indicate that the competitor's story is somewhat open to question.

Remember, to knock the competitor, usually turns out to be a boost for him. Spend your time selling "Cellophane" and use the above only when the proposition is brought up.

M863

O. F. Benz,
Sales Manager

OFB:EU

Defendant's Exhibit No. 510

BULLETIN BOOK

DU PONT CELLOPHANE COMPANY, INC.

NEW YORK, N.Y.

BULLETIN NO. 174-D.

September 17, 1928.

TO ALL SALESMEN:

COMPETITION:

It is evident the Fenestra organization recognize they are in for some difficulty this Fall and Winter on their present No. 300 material, as they are spreading information that within the next thirty days or so they will have a material on the market as heavy as our No. 450 at the same price as No. 300.

They probably have had word of our story on the new Cellophane and have seen samples of our production of the last few months, so know we have jacked up the thickness a notch or so.

So, what you can expect is a material similar to our present No. 300 and as we see it, you will have one more talking point when the customer tells you there is a heavier weight Fenestra coming along.

You can also use the fact that the thickness of transparent sheeting is not always a gauge of its strength unless there is a substantial difference. The method of handling, the type of unit wrapped, and the conditions to which it is exposed all have a bearing.

Remember, also, the thickness of Cellophane and similar materials is a very difficult thing to judge, and the average calipering gauges on the market will not give an accurate reading. It has been necessary for us to locate for use a very special gauge to be sure that our readings are reasonably accurate.

Since we have had that gauge, we find our new No. 300 Cellophane will range within 1/10,000 of the Henle material and considerably above the Fenestra.

Unfortunately, these gauges are too expensive to furnish to the individual man, so we recommend whenever you come in contact with material which is claimed to be heavier than Cellophane, and sold at the same price, send samples in to us

M857

DU PONT CELLOPHANE COMPANY, INC.

NEW YORK, N.Y.

BULLETIN NO. 174-D. September 17, 1928.
SUBJECT: COMPETITION.

and we will give you an accurate reading of the thickness. It is expected the man with whom you are contesting will have sufficient confidence in you and us to accept our statement as to the exact thickness.

O. F. BEEZ,

Director of Sales.

OFB:CLL

P. S. - Word has come to us that the thin (#355) Fenestra which has been sold as Seconds, at twenty percent off, is not available.

11857

Defendant's Exhibit No. 511

EXTRACT FROM MONTHLY REPORT OF EXECUTIVE COMMITTEE TO BOARD OF DIRECTORS OF DU PONT CELLOPHANE COMPANY

October 17, 1928

Competition:

The Chemical Division report, under date of September 27th, covering tests on two different grades of Fenestra, indicates that the quality of this material has been very materially improved since our previous tests. This material improvement has been definitely pointed out to the Technical Department with a request that a definite program of quality improvement on Cellophane be arranged, covering each of the individual quality points, and such program is definitely up with them now for detailed determination.

Foreign competition is extremely active. In some cases, they are offering a heavier weight stock than our regular #300, at the #300 level of prices, and they have likewise, established a number of agents or jobbers, in communities where they have not previously had them, apparently in an effort to provide a service of a local nature. Each of these individual communities is being considered in detail, as to the effect of this action on our present position.

M1137

As yet, except in minor instances, no material progress to our disadvantage has been made.

Defendant's Exhibit No. 512

EXTRACT FROM MONTHLY REPORT OF EXECUTIVE COMMITTEE TO BOARD OF DIRECTORS OF DU PONT CELLOPHANE COMPANY

January 21, 1929

Promotion of New Lines of Manufacture and Sale:

We have made some progress in the development of machine wrapping with Moistureproof Cellophane and there is, at the present time, being put into operation, a machine for the packaging

M137

of a new brand of cigarettes in Moistureproof Cellophane which will be machine wrapped. If, in actual operation, this proves as satisfactory as it appears now that it may it should open the possibility of still further developments in Moistureproof sales. This has been a difficult problem to get sufficiently far advanced to justify machine installation and work on it is an important part our present activities in a sales way.

Price:

The price decline of November 30th has been very agreeably received by the Trade, and numerous instances have been brought to our attention where a further consideration of the use of Cellophane will be re-opened on a basis of this lower cost. The change, will undoubtedly, be reflected in an increasing volume during the nearby months.

Competition:

The import of competitive goods continued at the recent high rate during December, with the result that in the last quarter of the year, practically an identical amount of material was brought in as was identified as competitive material in the first nine months of the year.

We have identified during 1928 1,426 cases for a total estimated amount of 620,000 pounds, of which approximately 405,000 pounds were Belgian material and 215,000 pounds, German material. It is possible that a slightly greater amount than this was actually received, but we believe our information is sufficient to justify the statement that this represents in excess of 90% of competitive imports.

In 1927, we were able to identify 970 cases of which about 70% was Belgian and about 30% German material. It would appear from this that the competitive imports increased during the year, approximately 50%.

During December, a sample of Krystal Klear, which was sold as Moistureproof Transparit, was sent in for examination and test. The permeability factor of this material was shown to be 3.5 which, in comparison with our Moistureproof material which is rated at 200 or better, shows that this sample by our standard, was not moistureproof at all. M737

Defendant's Exhibit No. 515

Sylvania Industrial Corporation

122 EAST 42nd STREET 121 WEST 17th STREET
NEW YORK

November 1st, 1929.

Dear Sirs:

Referring to the attached letter of Messrs. Birn & Wachenheim advising you of the acquisition of their business by our company, we take pleasure in advising you that the business conducted by them and subsequently by Birn & Wachenheim, Inc., is being taken over and will be continued by us in the same way and with the same staff as heretofore.

Our Warehouse, Sales and Shipping offices will be maintained at 121-125 West 17th Street in New York City and at the known agencies in other cities; our General offices remaining at 122 East 42nd Street, New York City.

We will continue to import "Fenestra" until after completion of our own manufacturing plant, under construction at Fredericksburg, Virginia, which we are equipping with the latest improvements. Thereafter, we will, with your consent, supply you with the goods manufactured there.

It will be our endeavor to continue to merit your confidence and continued patronage in every respect and to co-operate with you in solving such of your problems in which we can be of assistance to you.

Very truly yours,

SYLVANIA INDUSTRIAL CORPORATION.

M1138

Defendant's Exhibit No. 517

DEPARTMENT OF COMMERCE
BUREAU OF FOREIGN AND DOMESTIC COMMERCE
WASHINGTON

May 10, 1930.

IN REPLY REFER TO 36.

Mr. G. H. Andrews,
Export Manager,
DuPont Cellophane Company,
No. 2 Park Avenue,
New York, N. Y.

Dear Mr. Andrews:

I have reference to our previous correspondence of various dates concerning certain statistics compiledin our New York Office regarding imports of cellophane into the United States.

A communication from Mr. L. J. Mahoney, Chief of the Section of Customs Statistics to the Chief of our Chemical Division, has been routedto me for my information and I am inclosing herewith a copy of it for such use as you may wish to make of it.

This memorandum appears to be self-explanatory, but I might indicate that from appearances it seems probable that these imports may not be, strictly speaking, cellophane since this is evidently used by the Customs authorities as a sort of descriptive term and apparently is not considered as a trade name. It may for that reason include transparent sheets of cellulose compounds other than cellophane. This, of course, is merely conjecture and I have no means of determining whether this is the fact.

Very truly yours,

Norman S. Meese,
Assistant Chief, Paper Division.

Inclosure 35475.

M-740B

Defendant's Exhibit No. 519

CELLOPHANE

Progress Report

March 13 to March 24, 1931 — Lee R. Herndon

COMPETITIVE FILM — CD-C-10

Object:

To compare the physical properties of Kalle film with those of Du Pont Cellophane.

Conclusions:

A composite sample of four films of Cellophane gave better results in every respect than the Kalle film.

Experimental:

Seventy-five stock size sheets of Kalle film were received March 12, and regular physical and service tests were conducted on this film in comparison with Du Pont Cellophane. The box test results are given in the following table:

Film	% Glycerol	% Moisture	% Shatters
Kalle	17.7	6.9	38
Composite (4)	14.8	7.1	21

The tumbling test results show Du Pont Cellophane to be considerably superior to the Kalle film and curves for the two films have been plotted and a copy attached to the file copy of this report.

The physical test results are given in the following table:

Film	Kalle	Composite (4)
Thickness	0.00068"	0.00101"
Unit Bursting Strength	31.2	33.9
Unit Tenacity M.D.	16.8	17.4
Unit Tenacity T.D.	6.3	10.1
% Elongation M.D.	13.6	15.5
% Elongation T.D.	33.6	37.8
Unit Tearing Resistance M.D.	8.5	9.0
Unit Tearing Resistance T.D.	14.5	14.5

M1364

These tests show Du Pont Cellophane to be considerably superior to Kalle film in every respect.

Prepared by: Lee R. Herndon
Lee R. Herndon

Approved by: WLH
William L. Hyden

LRH:FVS

FILE COPY

M1364

Defendant's Exhibit No. 520

FROM GH

FOREIGN PRICES

	1930	1931	1932
1. Average invoice price, c.i.f. at principal ports of entry -	$.451 per lb.	$.542 per lb.	$.728 lb
(Source of information:	Synthetic Organic Chemicals Mfrs. Ass'n. reports issued monthly containing "Items obtained from the official records of the Department of Commerce and arranged serially according to statistical classification in Schedule A."		
2. Average export price f.o.b. foreign port -	$.4445 lb.	$.5355 lb.	$.7215 lb
(Source of information:	Number one minus $.0065 per pound on basis of ocean freight rates plus marine insurance averaging $13.00 per net ton.		
3. Average wholesale price at foreign plants -	$.4284 lb.	$.5149 lb.	$.6916 lb.
(Source of information:	It is generally understood that shipments handled for export by the customer instead of the manufacturer are subject to an allowance of 5% from C.I.F. entry port price.		

4. What foreign countries are our principal competitors?

Belgium
France
Germany

5. State any information you may have, and the source thereof, as to (a) foreign cost of production of this commodity, and (b) any peculiar factors of competition between foreign and domestic producers of this commodity, such as cartel arrangements, government subsidies, etc.

6. Is the foreign product substantially identical with or comparable to the domestic product?_____. If not, state in what important respects the two products differ.

Note: See supplementary memorandum attached.

M864

SUPPLEMENT

The average price per pound increase from one year to another is accounted for as follows:

Prior to the Tariff Act of 1930, transparent cellulose sheeting was assessable at 25% ad valorem. The present rate is 45%. Anticipating an increase in rates a substantial quantity was imported in 1930. This was regular sheet stock or standard numbers. The majority came from Belgium. Belgian and American interests were at that time negotiating the erection of a plant in America. Because of this direct contact with the Belgian factory, the invoice value was undoubtedly the lowest available for export and probably below the prevailing home market price generally.

The Department of Commerce records prior to June 18, 1930 did not itemize transparent cellulose sheetings. From June 18 to December inclusive, plus what we have reasonably well established to be competitive material, we obtain the following approximate figures:-

468,150 pounds - $211,206 - Average $.451 per lb.
Minimum price - $.34 per lb - Maximum Price $.80 per lb.

In 1931 the poundage and value decreased substantially. Belgium were the leading exporters. This stock was undoubtedly of a special nature. The new competitive U. S. factory had been under way but a short time. It is customary in starting a new factory to first produce the regular standard numbers. The figures for 1931 are approximately as follows:-

40,165 pounds - $21,791 - Average $.542 per lb.
Minimum Price - $.42 per lb. - Maximum Price $.94 per lb.

The average per pound price for 1932 increased substantially due to more general participation, smaller imports and an interest in sheeting used primarily for millinery purposes. This stock is much more expensive than regular sheet stock. In this case, as a matter of fact, beginning with September 1930, France became a larger exporter than previously. The production of millinery stock in many cases is initiated in France. The figures for 1932 follow:-

16,596 pounds - $12,080 - Average $.728 per lb.
Minimum price - $.30 per lb. - Maximum Price $.96 per lb.

It is well to bear in mind that since July 1931 there appears to have been no sheet stock imported of any consequence. Due to the present condition of foreign exchange, an increasing interest is being paid the American market by Japan, who have from 12 to 18 factories capable of producing at this time at the rate of approximately 1,200,000 pounds per year. Of this quantity, 400,000 pounds is available for export.

1864

The Japanese home market price varies according to the product, but the following data submitted July 16, 1932 by our Japanese representative is interesting:-

#300 Plain Transparent - Price per Ream - F.O.B. Osaka
(500 sheets 90 x 100)

Brand Number	Factory Price to Distributer	Distributer's Price to Dealer	Distributer's Price to Consumer
1	¥ 20.00 to ¥22.50 (Equivalent to 12 cents to 13.55 cents per lb.U.S. Gold).	¥ 25.00	¥ 32.50
2	Not known	¥ 34.00	¥ 37.50

There have been efforts to stabilize the price at ¥ 30.00 per ream but this has not proved practicable according to later information received. In this connection, we attach an article on "The Cellophane Industry of Japan" by S. Makane which appeared in the Paper Trade Journal issue of February 23, 1933.

Some of the quetations sent to America by the Japanese coincide with the foregoing. Following are some of them:

Date	Exporter	Addressee	Kind	Price per sq.meter	Price per pound
11/25/32	Nozaki Bros.&Co.Ltd.	Zellerbach (Jobbers)	#300	$.0185	$.25
11/25/32	" " " "	"	#450	.0234	.234
11/25/32	" " " "	"	#600	.0272	.163
1932	Usuri Trading Co.	Newberry (Consumer)	#300	.02166	.293

All prices are C.I.F. Port of Entry.

In addition to the foregoing, the Department of Commerce statistics for January 1933 record two Japanese importations thru the West Coast as follows:-

Los Angeles	899 pounds	- $142	- Average	$.158 per pound
San Francisco	1150 "	- $284	- "	.247 " "

The foregoing prices represent at their worst the Japanese exporters' price as the Japanese factories do not sell direct to foreign countries. The price of $.158 per pound is lower than the quetations we have seen here but it is in line with the home market price at the factory. As a matter of fact, the indication is that they can go as low as 12 cents per pound f.o.b. factory on the basis of a 20 cent Yen.

1864

Defendant's Exhibit No. 521

cc: Messrs. W.Beh-R.Schilly

YT-

(34)

Buffalo, New York
February 1, 1933

OD-C-10

E. H. Andrews, E.M.
New York Office

Subject:- COMPETITIVE SHEETING- TRANSPARIT.

Reference: Your letter January 26th, 1933.

The attached table shows the comparison of #300 Waterproof Transparit (Einlage 919) and #300 Plain Transparit with DuPont Plain and Moistureproof Cellophane. You will note that the Plain Transparit contains considerably more softener than DuPont Plain but that the Waterproof Transparit contains much less than Moistureproof Cellophane. The film of the roll of Plain Transparit was badly stuck together even to the extent that it was difficult to remove the film without causing it to tear, otherwise the physical characteristics of the Plain competitive material differ but little from those of the Du Pont Plain.

The important difference between the Waterproof Transparit and DuPont Moistureproof Cellophane lies in the moistureproofness. The protective value of the coated Transparit is very poor, being only about one-third as good as that of Sylvania's moistureproof film and about one-fiftieth as good as DuPont Moistureproof Cellophane.

The tearing resistance of the Waterproof Transparit is very low due, probably, to the low softener content of the film.

CHEMICAL DIVISION

JES:BB

J. E. Snyder

M1365

Defendant's Exhibit No. 522

cc: G.H.Andrews-T.[illegible]useki,Kobe
R.C.Schilly - N.Y.
[illegible]relatowski - Bflo

Buffalo, New York
May 29, 1933

CD-C-10-B

GT-38

45

G. H. Andrews, E.M.
New York

Subject:- VISCA M.T. - JAPAN

Reference:- Your letter May 15th, 1933

The attached table gives physical data on the samples of Visca M.T. Japan, compared with the latest monthly sample of Du Pont Moistureproof Cellophane. You will note that the Japanese film contains considerably more glycerol than our production. It compares favorably in strength characteristics. The moistureproofness is very low, being not much better than our Plain Cellophane.

The Japanese film appears to have been coated with nitrocellulose lacquer softened with camphor. The bromine test indicates the presence of resin. The film does not smear when rubbed indicating there is little or no wax present.

The coating streaks are prominent.

FILE COPY

CHEMICAL DIVISION

JES:BAB
t-f

J. E. Snyder

M1366

Defendant's Exhibit No. 524

CC: H. O. Thayer-Buffalo
F. M. Pralatowski-Bflo.

CD-C-10

Buffalo, New York
December 5, 1934

57

Mr. G. H. Andrews
Export Manager
New York Office

Subject: SIDAC FILM
Reference: Your letter November 13, 1934

We have examined the samples of Sidac plain 300, Isol 300 and Isol Fuego 300. You state that these sheetings are competitive to Cellophane in Argentine. The Isol is supposed to be an M.T. type and the Isol Fuego is supposed to be a M.S.T. type. The results of the analyses are given in the following table:

	Glycerol %	33 mm Permeability Flat	Crumpled	Heat Seal Cigar Test	M.S.T. Strip Test
Isol (M.T.)	-	1[illegible]	1440	8.2 lbs.	-
Isol Fuego (M.S.T.)	-	1200	970	-	0 grams
Sidac, Plain	11.4	-	-	-	-
M.S.T. "Cellophane"		10	40	-	120 grams
M.T. "Cellophane"		10	40	12-15 lbs.	-

The samples were somewhat creased and accordingly the permeability, flat values are probably a little poorer than they would be if in good condition. However, the magnitude of the permeability values definitely shows that both types of the competitive sheets are of extremely poor moistureproofness. The M. T. type of competitive sheeting is about equivalent to our M. T. type as far as heat sealing is concerned. It is good enough for cigar wrapping. The competitive M.S.T. is of very poor heat sealing quality as compared with our M.S.T.

It is to be noted that the plain Sidac sample contains only 11% glycerol. Their use of the low glycerol parallels ours for exporting, as we incorporate 10% glycerol in 300 gage films for exporting.

CHEMICAL DIVISION

J. [illegible]

JES:NHO
f-t

M 1367

Defendant's Exhibit No. 527

CC: C. B. ESTABROOK
W. J. HARTE
M. M. CLEAVER

DU PONT

DU PONT CELLOPHANE COMPANY, INC.

111 W. WASHINGTON STREET
CHICAGO, ILL.

October 7th, 1935.

TO: MR. H. C. BROEMS, M. S. R. S.

FROM: C. W. ROBINSON, C. C.

SUBJECT: H. SCHONEBERGER & SONS,
CHICAGO, ILL.

REF: LETTER OCT. 3RD.

Below we quote Mr. Cleaver's memo of October 6th.

"Re the Japanese film which subject bought and found unsatisfactory.

This film was sold at same price as our #300 P.T. but was claimed to be heavier gauge, equivalent to #450 weight. Observation of sample sheets showed the gauge to be somewhere between the thicknesses of 300 and 450, but subject's operators found it to be too light and weak for satisfactory working of mandril bags. They also found it hard to glue and much more difficult to handle in shaping the bags. It was stiffer than Cellophane and had very prominent grain which affected the transparency of the finished noodle package."

M870

Defendant's Exhibit No. 528

CONVERTER AND INDUSTRIAL TRADE REPORT

Cellophane

Representative W. L. Nash	Date 11/27/35	No. 353	
Firm S. & J. Roles Company	Bus. Lampshades	Class 3-4	
St. and No. 23 E. 21st Street	City New York,	State N.Y.	
Controlled by Same			
Final Decision by Mr. Lessan		Contacted on this call?	
Mem in'd and Titles			

Transparent Sheeting Used				Bo't from	Estimated Consumption—Lbs. This Quarter	Next Quarter
300 x	P.T. x	Rmb.	2nds	Us	1500	2000
450	P.C.	Sheets	Special:			
600	M.T. x	Rolls	Rejects			
H.W.	M.C.	1st				

If using competitive material, give specific reasons:

Present uses for Cellophane: Wrapping lampshades

Contemplated uses for Cellophane:

Sales Promotional Material used on this call:

Agreement account? no

Discount basis? no

Order secured? yes If not, when?

Approx. date next call? 60 days

Date of Last Call	Date Report/Rec'd	Date Typed
1st call	12/2/35	12/2/35 N

(Answer each question numerically below.)

1. What, kind, quantity, specifications and date samples were sent?
2. State briefly their progress to date.
3. If unfavorable difficulties experienced
   a) What are their plans to overcome?
   b) What logical help can we render?
4. How will their product be marketed?
5. What are their plans for sales promotion?
6. When have we offered as a plan for cooperative sales promotion?
7. What is your plan for next call?
8. State briefly any additional important information developed.
9. Who should receive copies of this report?

W. Contacted here to determine what type of sheeting they were using for the wrapping of their lampshades.

Presented samples of No. 300 plain transparent and moistureproof reject sheeting and suggested its use for wrapping lampshades.

Secured their order today for 100 lbs. of this material to determine its practicability and ease of handling, and if satisfactory, will place future orders on the basis of 500 lb. quantities.

Have been purchasing some of the Japanese cellulose sheeting and Mr. Lessan pointed out to the writer today that it was a very inferior grade of material and was breaking very readily. He has only used a few packages from the last shipment and returned the entire amount. Stated he would not consider using this Japanese sheeting again and promised the writer all of his future business.

9. E. B. Ichla - E. C. Lake
W. L. Nash

Defendant's Exhibit No. 529

O. F. BENZ
J. E. HATT

April 10, 1936.

AIR MAIL

To: W. Pickering, W.S.M.
952 Sutter Street,
San Francisco, Calif.

From: B. C. Robbins.

SUBJECT: PATTEN, MACKENZIE & COMPANY,
23 Fremont Street,
San Francisco, Calif.

Information has reached us that the above concern is offering bags made in Japan from Japanese cellulose in any quantity.

The bag prices of comparable sizes are listed for your information:

Size	American Prices	Japanese Bags
9-1/2 x 17	$15.41	$ 8.55
9 x 17	14.23	8.16
3-1/2 x 8	2.78	1.50
3-1/2 x 8	3.30	1.75
4 x 6	3.02	1.60
4 x 8	3.60	2.10
4-1/2 x 8	3.94	2.05

The prices for these bags are delivered New York, duty free.

It is of interest to Mr. J. E. Hatt to have you determine as soon as possible additional information -

1. The comparable amount of film in Japanese bags and the bags made here. In other words, how much would a thousand of the Japanese bags weigh compared to a thousand of the American bags of the same size?

53 Gm 30
AT-1361

E. Pickering
concluded

2. Samples if possible.

3. How are the bags marked? Are the individual bags stamped "Made in Japan", or are the boxes containing them marked this way?

4. How are they classified when imported? What trade name and is "Cellophane" used in connection with it?

5. They have evidently circularised the trade on a national basis recently and we would like to have a copy of the price list and letter accompanying it if possible.

Any other additional information you can give us will be very helpful and we ask you to send it with all possible speed.

DCR:R

P.S. Confirmation via regular mail.

Defendant's Exhibit No. 530

RIO DE JANEIRO, BRAZIL

Cellophane, which is purchased principally from the United States, appears to be the only imported wrapping paper which enjoys a worth while volume of sales in the market. The following table, which was compiled from official statistics, shows imports of cellophane during the years 1934 and 1935. This classification, which was established in 1934, is the only one existing in Brazilian import statistics on wrapping paper:

Country of Origin	1934 Kilos	1934 Contos	1935 Kilos	1935 Contos
United States	71,338	790	59,411	948
Germany	22,603	244	11,192	181
France	16,669	196	29,240	457
Japan	230	2	40,779	402
All others	28,540	423	222	8
TOTAL	139,380	1,655	140,844	1,996

As indicated by the above data, the United States figures as the leading supplier of Brazil's cellophane requirements, with 21% of the total value of such imports for each of the two years covered. Japan materially improved its position as a supplier of this paper during 1935 and will probably continue as a competitive factor by reason of being able to sell at prices approximately 20% under those of American suppliers.

The increase in sale of transparent cellulose wrapping paper in the market during recent years indicates a definite trend towards improved packaging. Prior to 1933, practically no cellophane was used here for wrapping purposes. Due largely to the pioneering efforts of a large American manufacturer, a demand was created which has grown steadily during the past three years. At the present time this wrapping material is used for enclosing such products as cigarettes, cigars,

M1369

women's hosiery, neckties, and collars. In addition to these uses, there is a lively demand for cellophane bags for packaging tea, coffee, and a variety of other food products. Medium and low quality paper for this purpose is supplied largely by Japan, while the United States is a source for all of the moisture-proof wrapping, as well as the bulk of the regular first quality cellophane.

Extracted from Special Report #98, "THE BRAZILIAN MARKET FOR WRAPPING PAPER" dated April 30, 1936 to Forest Products Division, Bureau of Foreign and Domestic Commerce, Washington, D. C. by J. Winsor Ives Trade Commissioner.

M1369

Defendant's Exhibit No. 531

May 28, 1936.

MR. H. O. THAYER
DIRECTOR "CELLOPHANE" RESEARCH
BUFFALO

JAPANESE ROLL STOCK

Under separate cover today, I am sending you a roll of Japanese film. This is the first Japanese film in roll form we have seen.

It might be well to have it run with other materials for its qualities, and note particularly the unsatisfactory core and the general put-up.

We have anticipated for sometime that sooner or later, they would attempt to produce rolls and probably this will be improved on.

We think it will have to be, to be of any competitive value against us.

It might be well to retain this as a part of your collection of competitive film.

J. E. HATT

GENERAL MANAGER.

L

M1428

Defendant's Exhibit No. 532

Cellophane

DU PONT

TRADE REPORT

M877

(District Sales Manager's Copy)

Salesman R. E. Henning Date 7/10/36 No. 86

Firm Los Angeles Pie Co. Bus. Pies Class 2-6

St. & No. 1720 Hooper Ave. City Los Angeles State Calif.

Controlled by: Above

Final Decision by (Titles) J. W. Jacobs, Pres. Contacted on this call? Yes

Buyer W.W.Ledger, Gen. Mgr. Contacted on this call? No

Others Contacted this call (Titles)

Mailing List?

Type of Call—Productive Service Comp. X

Source of Supply	Est. Conn.-Rs. this Calendar Quarter	If using competitive material, state type and reasons
Japanese	200	300 plain - Price differential

Items wrapped in transparent sheeting: Pies

Other products on which Cellophane could be used: (Note new products in work) Pies

a. Sales tools used on this call: Samples Trav. Disp. Photos X Pack. Dev. Conn. Ads. X Trade Ads. X Mkt. Sys.

b. Agreement account? no

c. Did you secure order? no

d. Service and general remarks—below

Answer Mr. C. F. Brown's letter 6/30/36.

Spent two hours with Jacobs -got him to take writer thru plant in order to observe girls wrapping pies with Japanese film to prove material was brittle and cloudy. These contentions were borne out, as girls waste material because of breakage.

Present how they could buy Cellophane for $2.25 per thousand sheets by using roll stock over $2.38 for cut to size Japanese Film. And with assurance our pro-

Date of last Prod. Call	Rec'd at District Office	Date Typed	Copies for
6/17/36	7/13/36	K 7/13/36	HMS

CREATIVE WORK DONE

1. New items on market since last call or order placed—distribution, potential.
2. Result of suggestions made on previous calls.
3. Creative suggestions to extend use of Cellophane made on this call and customer's reactions?
4. What is your plan for next call?
5. What assistance can organization give you? (See back of report)

(d - continued)

duct was superior and fully guaranteed. This alone was reason for our getting business, but we had, also, many services which were invaluable. As an example we told him how he could color pie crust with vegetable extracts and give his pies more sales value. This was made in answer to his question on whether it was possible to get color in pie crust.

Told Mr. Jacobs a story learned by talking to a retailer on Japanese imports, i.e.; a Japanese came in his store and asked to buy a General Electric light bulb as she wanted to buy a good one and didn't want a Japanese bulb. This was to point out members of the Japanese race admitted the superiority of American manufacturing.

(R) Obtained an admission Japanese film was inferior to Cellophane & we desired business, but he wants to check with Ledger, who was out today, on prices. He balked on roll stock idea.

****

Writer will present personally 1000 sheets of Cellophane for a production run to establish our material is a better buy.

****

C.F.BROWN: Purchased 1000 sheets of Japanese film and it has been forwarded to you. Suggest it be analyzed as to strength, etc., so writer can present facts on superiority of Cellophane.

****

Checked Zellerbach coverage and learned they never call on this firm.

Defendant's Exhibit No. 533

Defendant's Exhibit No. 5260-A

DU PONT) TRADE REPORT M879

(Temporary File Copy)

Salesman R.E.HENNING Date 2-3-37 No. 52

Firm J.G.McDONALD CHOCOLATE CO Bus. candy Class 1-2

St. & No. 152 West 3rd South City SALT LAKE CITY State Utah

Controlled by:

Final Decision by (Titles) J.G.MCDonald, pres Contacted on this call? yes

Buyer R.N.McDonald,sales mgr "

Others Contacted this call (Titles) Gail McDonald,prod.mgr "

Mailing List?

Type of Call-Productive Service Comp.

Sources of Supply	Est.Cons.-lbs. this Calendar Quarter	If using competitive material, state type and reasons
Zell	2000	includes bags,printed & printed bands
Jap	500	price reasons

Items wrapped in transparent sheeting:

candy,boxes,bags,bars

Other products on which Cellophane could be used: (Note new products in work)

candies,kisses,sticks,new small units,summer candies

a. Sales tools used on this call:
Samples x Trav.Disp. Photos x Pack.Dev.
Cons.Ads. Trade Ads. x Mkt.Sur.

b. Agreement account? no

c. Did you secure order? no

d. Service and general remarks-below

Zellerbach won't give credit as financial condition is bad. This is reason they tried Japanese film and found it very unsatisfactory for box goods - customers complained of breakage.
Made call with Shoenfeld,Zellerbach salesmen

Date of last Prod.Call	Rec'd at District Office	Date Typed	Copies fo
1-27-36call	2-8-37	KE-8	

M879

CREATIVE WORK DONE

1. New items on market since last call or order placed-distribution, potential.
2. Result of suggestions made on previous calls.
3. Creative suggestions to extend use of Cellophane made on this call and customer's reactions?
4. What is your plan for next call?
5. What assistance can organization give you?

(See back of report)

1. None

2. Subject doesn't manufacture hard candy

3. A - kisses - 300 M.S.T. Convert Model K and how this could be done. Used development of of hard candy to illustrate market possibilities. Samples and photos to illustrate; also sales test on hard candy
(R)Promised to conver machine and adopt.

B- Individual chocolates - sell for 1¢ to take advantage of odd change from Utah sales tax. Sell thru restaurants - cigar stands,etc. Success of this type item in Los Angeles
(R) Will adopt.

C - Bar chocolate - 300 P.T. printed to replace foil and glassine. Sales test on chocolated covered bars. Suggest they reduce size of bars because of rising ingredient costs and adopt "Cellophane" so consumer will be impressed with improved quality and their reduced size will not be noticed or objected to.
(R) Liked idea and asked Zellerbach to quote prices on printed wraps

4. Follow above and watch credit

5. None

M 879

✓ Defendant's Exhibit No. 534

TELEFONO
M-7218

Rafael Oriol

MERCED, 307
APARTADO 1205
HABAÑA
CUBA

CABLE
"MORICL"

Dictated 3-24-50
LA HABANA. March 27, 1950

E. I. Du Pont de Nemours & Co.
350 Fifth Avenue
New York City.

CONFIDENCIAL

Dear Mr. Andrews:

I am sure you will be interested to learn the following quotation I have read from a letter of Milprint of Venezuela.

In the letter of Milprint de Venezuela to Milprint de Cuba there is the following:

"You are asking us in regard to English film. We have just been experimenting, in spite of the long credit terms they have been granting us, namely 90 days sight draft. The film (they don't mentioned which) has come all sticked together in the roll, plus a lot of splices whereby we have a lot of breakages. Furthermore, the plasticizers were uneven, therefore; our printing was unsteady and, in making bags with our heatsealing bag machine the results were disastrous."

"More or less we have been starting the same problems with Sylvania's film and for the above reasons we have given up making more experiments."

"From now on we have decided to use as a rule Cellophane 54-MST".

This is all of Milprint de Venezuela's letter in regard to film.

Kindest regards, and I am,

Yours very sincerely,

Rafael Oriol

ro:gm

M1872

VIA AEREA VIA AIR MAIL

Defendant's Exhibit No. 535

Sheets, Bands, and Strips of Transparent Cellulose Film;[1] United States Imports for Consumption[2] 1934 - 1949.

Year	Quantity in Pounds
1934	32,117
1935	270,242
1936	194,077
1937	148,831
1938	46,099
1939	71,451
1940	21,938
1941	36,339
1942	62
1943	5
1944	76
1945	222
1946	11,978
1947	7,141
1948	518
1949 (Jan.-Nov.)	9,705

1/ Exceeding one inch in width, but not exceeding 3/1000 inch in thickness, made from cellulose, except cellulose acetate. (tariff paragraph 31 (c)).

2/ Source: "Foreign commerce and navigation of the United States," Foreign Trade Division, Bureau of Census, U.S. Department of Commerce.

DEFENDANT EXHIBIT NO.

Defendant's Exhibit No. 536

ANNUAL DOLLAR VOLUME OF SALES OF CELLOPHANE

	DU PONT			SYLVANIA		
	Plain	Moistureproof	Total	Plain	Moistureproof	Total
1924	$1,306,662	$ -	$ 1,306,662			
1925	1,942,373	-	1,942,373			
1926	2,982,542	-	2,982,542			
1927	* 2,869,014	-	2,86[illegible]			
1928	3,131,608	603,222	3,734,830			
1929	4,228,777	1,990,843	6,219,620			
1930	4,306,440	6,588,489	10,894,929	N.A.	N.A.	N.A.
1931	4,918,294	11,149,513	16,067,807	N.A.	N.A.	N.A.
1932	5,052,422	10,325,539	15,377,961	$1,916,449	$ 1,091,158	$ 3,007,607
1933	4,981,306	11,686,804	16,668,110	2,114,506	1,759,572	3,874,078
1934	5,359,327	13,459,023	18,818,350	2,120,127	3,095,148	5,215,275
1935	5,126,685	13,581,480	18,708,165	2,131,884	3,906,913	6,038,797
1936	6,012,868	16,674,063	22,686,931	2,371,318	4,987,109	7,358,427
1937	6,204,768	18,850,063	25,054,831	2,241,066	5,438,522	7,679,588
1938	5,907,989	19,667,671	25,575,660	2,547,850	6,284,401	8,832,251
1939	6,561,206	22,778,550	29,339,756	3,283,310	6,650,291	9,933,601
1940	6,721,422	24,327,492	31,048,914	3,365,902	6,866,069	10,231,971
1941	8,960,865	31,013,706	39,974,571	4,029,240	8,799,764	12,829,004
1942	4,535,340	30,115,596	34,650,936	2,163,165	11,204,888	13,368,053
1943	4,297,047	34,937,420	39,234,467	1,664,011	10,677,563	12,341,574
1944	5,006,154	34,350,852	39,357,006	1,432,947	10,671,004	12,103,951
1945	4,453,135	35.361,199	39,814,334	1,785,954	10,524,162	12,310,116
1946	4,984,310	37,665,221	42,649,531	2,037,739	12,202,521	14,240,260
1947	7,741,573	47,598,053	55,339,626	2,093,250	14,388,668	16,481,918
1948	9,483,247	64,255,320	73,738,567	2,885,008	17,399,474	20,284,482
1949	8,234,870	77,701,608	85,936,478	2,711,094	19,074,254	21,785,348
1950	9,330,776	89,850,416	99,181,192	2,674,961	26,809,793	29,484,754

* Includes 58,279 pounds of Moistureproof not reported separately in 1927.

Sources: Du Pont 1924-1949 Gov't. Exhibit No. 395; 1950 Records of Film Control Division, E. I. du Pont de Nemours & Co.
Sylvania 1938-1948 Gov't. Exhibit No. 411; 1949-1950 Records, Sylvania Division, American Viscose Corp.

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Defendant's Exhib

DEFENDANT EXHIBIT NO.

COMPARISON OF DU PONT AND SYLVANIA SALES OF CELLOPHANE AND ANNUAL RATES OF INCREASE, PLUS PERCENT OF CAPACITY

	Du Pont			Sylvania		
	Pounds	% Increase Or (Decrease) From Previous Year	As % Of Capacity	Pounds	% Increase Or (Decrease) From Previous Year	As % Of Capacity
1924	521,074		66.0			
1925	1,007,993	93.4	71.3			
1926	1,740,722	72.7	73.2			
1927	2,005,402	15.2	88.5			
1928	3,082,860	53.7	96.9			
1929	5,835,835	89.3	96.4			
1930	12,629,557	116.4	82.6	N.A.		
1931	24,970,611	97.7	76.9	N.A.		
1932	27,651,834	10.7	75.2	5,854,667		63.0
1933	33,079,156	19.6	70.7	8,011,288	36.8	80.1
1934	39,122,558	18.3	67.2	10,733,005	34.0	83.2
1935	43,427,448	11.0	76.1	13,596,115	26.7	88.9
1936	54,917,159	26.5	91.7	17,517,251	28.8	87.6
1937	60,423,084	10.0	93.5	18,314,308	4.6	77.3
1938	61,498,059	1.8	80.4	20,871,156	14.0	79.1
1939	73,745,899	19.9	86.7	25,327,246	21.4	84.4
1940	81,868,979	10.7	88.4	27,438,478	8.3	91.5
1941	104,761,532	28.3	93.3	33,996,170	23.9	92.9
1942	87,489,190	(16.5)	88.6	32,944,976	(3.1)	90.0
1943	97,095,126	11.0	93.1	29,991,525	(9.0)	81.9
1944	93,972,679	(3.2)	92.4	28,789,138	(4.0)	78.7
1945	95,600,263	1.7	92.7	29,635,927	2.9	81.0
1946	106,375,800	11.3	91.6	35,254,920	19.0	96.3
1947	131,973,946	24.1	95.2	39,008,731	10.6	85.7
1948	150,445,163	21.6	96.8	43,498,756	11.5	92.6
1949	177,830,739	10.8	95.7	47,001,899	8.1	92.2
1950	202,382,747	13.8	99.0	60,969,716	~~3.0~~ 29.7	96.0

Sources: Du Pont - 1924-1949 Gov't Exhibit No. 395; 1950 Records of Film Control Division E. I. Du Pont De Nemours & Co.
Sylvania - 1930-1948 Gov't Exhibit No. 411; 1949-1950 Records, Sylvania Division, American Viscose Corp.

Defendant's Exhibit No. 538

FINANCIAL DATA CONCERNING
SYLVANIA INDUSTRIAL CORP.
FROM 1933 TO 1945 INCLUSIVE
AND
AMERICAN VISCOSE CORP.
FROM 1946 TO 1950 INCLUSIVE

	Current Assets	Current Liabilities	Total Assets	Net Income (After Taxes On Income)
Sylvania Industrial Corp.				
1933	N.A.	N.A.	N.A.	$ 526,818
1934	N.A.	N.A.	N.A.	996,469
1935	$1,674,135	$ 536,149	$8,912,542	971,504
1936	1,625,063 (1)	836,579 (2)	10,203,999	1,161,560
1937	1,928,433 (1)	1,389,995 (2)	10,942,509	598,431
1938	1,929,078 (1)	587,127 (2)	10,645,913	662,106
1939	3,002,724	897,320	11,647,838	1,340,284
1940	3,777,480	1,039,624	12,443,102	1,148,603
1941	4,521,602	868,140	13,130,245	1,150,651
1942	6,369,533	1,455,480	14,321,059	998,211
1943	6,753,801	810,490	14,037,959	937,426
1944	8,504,686	1,691,655	15,144,107	848,623
1945	9,471,468	1,915,609	15,379,433	872,511
American Viscose Corp.				
1946	97,435,970	26,959,387	176,135,491	11,862,674
1947	110,846,416	41,322,734	201,188,322	18,520,001
1948	129,925,543	47,517,810	226,865,874	29,107,138
1949	118,191,426	30,826,018	222,395,620	20,226,776
1950	165,806,000	58,931,000	271,819,000	33,170,000

(1) **Detail of Current Assets**

	1936	1937	1938
Cash	$ 192,008	$ 82,314	$ 386,452
Accounts Receivable (Net)	499,244	452,072	522,489
Inventories	933,811	1,394,047	1,020,138
Total	$1,625,063	$1,928,433	$1,929,079

(2) **Detail of Current Liabilities**

Notes Payable	-	650,000	-
Accounts Payable & Accruals	370,129	329,494	301,235
Provision for Taxes	466,450	410,502	285,892
Total	$ 836,579	$1,389,996	$ 587,127

N.A. - Not available

Note: Assets and liabilities are stated as of December 31; assets are net of applicable reserves.

Source: Moody's Industrials - Manuals from 1936 to 1950, inclusive, and semi-weekly supplement No. 92 dated April 11, 1951.

Defendant's Exhibit No. 539

cc. [redacted]
J. E. HATT
L. A. YERKES
B. M. MAY

August 25, 1932.

Period Ending 8-15-32
Tobacco 8-32.

DU PONT CELLOPHANE COMPANY

SALES RECORD SECTION

L. A. Y.

SEMI MONTHLY INDUSTRY ANALYSIS

TOBACCO

1. COMPARATIVE DIRECT SALES AND MONTHLY WITHDRAWALS

(A) CIGARS

1. 1932 TO DATE
Our sales for the first seven months of 1932 or to date, total 1,255,241# compared with 1,959,186# for the same period last year - a decline of 34.46%. Total cigar withdrawals for consumption to date show a decline of 18.46%.

2. JULY 1932 - 31
DuPont direct sales in July were 199,588# compared with 344,440# in 1931 or a recession of 42.5%. Compared with a year ago, July withdrawals for consumption show a decline of 24.65%. Both of these percentage declines are the largest yet recorded, direct sales and withdrawals.

3. JUNE - JULY 1932
The month change in our direct sales is negliable, July being 199,584# compared with 199,665# in June. July withdrawals totaled 382,540,000 cigars - a drop of 9.6% compared with June figure of 423,354,000.

(B) CIGARETTES

1. 1932 TO DATE
Total direct sales for the first seven months to this outlet were 4,123,490# which, compared with 2,270,944# for the like period of last year, is a gain of 81%. The additions of large cigarette accounts during various months of 1931 on a large scale basis, particularly American Tobacco Co. in August, still have the effect of maintaining this percentage increase at a high level. However, total withdrawals of cigarettes for consumption to date are at a point 12.41% below last year. This is equal to approximately 9,904,000,000 cigarettes less, or the equivalent to one month's normal cigarette consumption.

M1430

1-B-2. JULY 1932 -31
Direct purchases were 775,327# or an increase of 48.7% over the figure of 521,075# for July last year, but as was pointed out American Tobacco did not start large scale buying until August of last year. The decline in cigarette withdrawals for consumption was 10.9%.

3. JUNE - JULY 1932
Purchases for July increased 24.6% over June or 775,327# compared with 613,057# for the previous month. Cigarette withdrawals fluctuated from 10.5 billions in June to 9.5 billions in July, a seasonally lower month, or a drop of approximately 9.5%.

(C) TOBACCO PRODUCTS
Total sales to date this year show a large percentage increase. Actual poundage is 829,384# compared with 58,859# for the like period last year. Total consumption of tobacco products to date as represented by withdrawal figures has declined but 4.39%. Our July direct sales were 27,439# as compared with 2,715# a year ago and 29,015# in the preceding month of June this year.

2. CIGAR SALES DECLINE
As was pointed out in the previous report, thru a summarized analysis of cigar accounts, non-competitive accounts showed a decline of 26.51% due to decreased consumption for the first six months of 1932. The decline for cigars withdrawn for consumption during July was 24.65% while the decline in June was 22.73%. This increased rate of recession then, is more closely approximating the actual declines experienced by our non-competitive accounts during the first six months. There is also to be considered the factor of the time element or spread between production and buying schedules and the actual time the cigar is withdrawn for consumption. It appears then that our sales are reflecting the actual withdrawal declines at least a month in advance.

In addition to the decreases attributed to lessened consumption, it was found in this analysis that competition or Sylvania, increased this total decline by an amount equal to 6.8%. The balance of the total 34.46% sales decline to cigars to date this year, or 1.15%, is unaccounted for.

Summarized the factors responsible for the decline in our direct sales to cigars are:

1.	26.51%	Decreased consumption of cigars.
2.	6.80%	Business gained by Sylvania.
3.	1.15%	Unaccounted for.
	34.46%	Total decline to date 1932.

M1430

3. RECENT REFLECTIONS FROM THE INDUSTRY

WEBSTER EISENLOHR & CO. Detroit, Mich 1-12, state they are experiencing a gradually declining volume in the sales of their cigars. Direct purchases for this plant total 4,187# to date. Contrasted with 6,780# for the like period last year.

JOHN H. SWISHER & SONS - Jacksonville, Fla. 1-12, is experiencing a good pick up in business volume with new cigar orders still coming in. However, sales to date this year are 44,092# compared to 58,330# for a similar period in 1931.

M. MARSH & SONS, INC. Wheeling, W. Va. 1-12, report that since the price cut of stogies to three for 10¢, business volume has increased considerably and they expect to reach a new high for monthly CELLOPHANE purchases, or approximately 4,000#. At present plant is operating 24 hours a day. Total 1931 purchases were 890#. Total to date this year is 8,934#, July being the highest month with 3,483#.

4. NEW ITEMS (August 1-15)

AMERICAN TOBACCO COMPANY - N.Y.C. 1-18, new two for 5¢ cigars - "Osceola" brand.

5. COMPETITION (August 1-15)
TRANSPARENT CELLULOSE SHEETING

MAZER CRESSMAN - Detroit, Mich. 1-12, is no longer buying Sylvania material and have used up balance of order. Agreement signed and 6000# have been ordered since signing.

SCHWAB DAVIS & COMPANY - Tampa, Fla. 1-6, state that the competitive fabricator Visotube Company of Chicago is circulating cut rate prices for tubes in Tampa cigar district. Some producers appear receptive, as they state Dobeckmun and Humitube prices are too high.

GRADIZ ANNIS & COMPANY, INC.-Tampa, Fla. 2-6, has placed small order with Visotube Company of Chicago. No serious inroad is contemplated with respect to Dobeckmun's business with this account. Quarterly consumption is estimated at 150# for Visotube, 2000# for Dobeckmun.

I. LEWIS CIGAR MFG. CO. Newark, N.J. 1-12, has just returned a signed agreement to again use DuPont stock as the principal source of supply. Estimated quarterly consumption of cellulose sheeting is placed at 12,000# of which it is expected DuPont will receive better than 50%.

REGENSBURG & SONS - N.Y.C. 1-12, have been making machine tests for cigar wrapping with Sylvania material, reports from which are quite favorable to competitor's stock. The alleged peeling of the coating and beaded edges apparently were the unfavorable factors in the operation of DuPont material. No purchases of size relative to competitive stock are indicated. Total direct sales to date are well ahead of last year.

M1430

The following competitive cigar accounts which used Sylvania material in varying amounts have recently indicated a complete or partial return to DuPont stock.

C. N. Foreman & Co.,	Red Lion, Pa.	Complete
Mazer-Cressman	Detroit, Mich.	"
Bobrow Bros.	Phila., Pa.	"
Julius Klorfein Co.	New York City	Partial
I. Lewis Cigar Co.	Newark, N.J.	"

6. FUTURE OUTLOOK

From the standpoint of production, August activity in the tobacco industry is from past indications, slightly accelerated compared with July. We anticipate this to be reflected in our direct sales correspondingly. Starting with September however, the industry according to advises from "Tobacco Leaf" offices, seasonally sets up larger production schedules to meet the yearly peak of consumption which follows in the last two months or November and December. Heavier purchases of CELLOPHANE to meet this seasonal trend are therefore expected.

It is hoped that this concentration of activity now approaching in the tobacco industry will also have the compensating effect of reducing somewhat the present total rates of decline experienced to date this year.

"Tobacco Leaf" is the authority for the statement that the present consumption of cigars has steadily declined to a level equivalent to that of twenty five years ago. Whether this continued downward trend can be leveled out or maintained at its current position, is still the uncertain problem of the industry with no reliable indicators apparent.

M1430

Defendant's Exhibit No. 540

Noted by Bakema
Return to M.C. Lyon

B.M.M.

September 1, 1932.

MR. T.L. HINES:

MR. G.F. BENZ:

CIGAR INDUSTRY

Your report S-32, dated August 25, 1932.

As I read this report, Cellophane sales to our non-competitive customers during the first 8 months of 1932 declined 26.51% compared with last year. The total withdrawals for the same period showed an 18.46% decline compared with last year. This would indicate that our cigar customers lost more business compared with last year than the trade in general, which I do not believe is a reasonable assumption.

If these figures are put in what seems to me a more reasonable way, they show our position considerably worse than Broom's report indicates. Our sales to the cigar industry for the first 7 months of 1931 were 1,958,000 lbs. Assuming that the withdrawals in the first 7 months of 1932 were off 20% (instead of 18.46%) our sales should have been off 392,000 lbs., or we should have sold 1,567,000 lbs. instead of an actual sale of 1,255,000 lbs., or a loss of 312,000 lbs. Obviously this has been lost to competitive sources or the cigar manufacturers have ceased using Cellophane.

The July figures are even worse. We sold in July 1931 344,000 lbs. The withdrawals in July 1932 showed a decline of 25%, or 86,000 lbs. Subtracting this amount from 344,000 lbs. gives us 258,000 lbs. we should have sold, as against actual sales of 199,000 lbs., or a loss of 59,000 lbs. for one month, or at the rate of 413,000 lbs. for the 7 months period, against an actual loss for the 7 months' period as shown above of 312,000 lbs.

It is true that the withdrawals in July were at a greater percentage decline compared with 1931 than over the year to date, but nevertheless I believe all of the above figures indicate a serious loss of business in the cigar industry, perhaps more serious than we have thought, and I think they clearly show that Sylvania have gotten more of this business than is indicated in the above report.

M1431

LAY-ML

Defendant's Exhibit No. 541

BULLETIN

INFORMATION BULLETIN NO. 113-HH

TO: O. F. BENZ

November 16th, 1932

COMPETITION FROM FABRICATORS

The Sylvania Industrial Corporation has several exclusive fabricators. Among these are:

Daniels Manufacturing Co.,	Rhinelander, Wisc.	Printers
Oneida Paper Products Co.,	Brooklyn, N. Y.	Bag Mfrs.
Equitable Paper Bag Co.,	Brooklyn, N. Y.	" "

We have reason to believe these particular fabricators are soliciting business on the basis of lower prices than Cellophane fabricators. We understand they are actively soliciting accounts now being supplied by our converters.

Faced with this situation, we have a real selling job to do to convince users of printed Cellophane and Cellophane bags that it is distinctly to their advantage to pay a little bit more for Cellophane on the basis of the quality of the material and the quality of the fabrication job.

You should make it a point to get this quality story over to the purchasing agents of your customers using bags and printed Cellophane so that it will register unmistakably and strongly and thus build up a resistance to cut-price tactics.

"Specify Du Pont Cellophane" - is the message to register!

C. F. Brown,
G. A. D. S.

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DUPONT CELLOPHANE CO. GENERAL SALES OFFICES

Defendant's Exhibit No. 542

DU PONT CELLOPHANE COMPANY, INC.

Manufacturers of Cellulose Film

350 FIFTH AVENUE — NEW YORK, N.Y.

September 14, 1934.

TO: BOARD OF DIRECTORS,
DU PONT CELLOPHANE COMPANY, INC.

FROM: L. A. YERKES, PRESIDENT.

W.S.C.JR.

COMPETITIVE POSITION OF "CELLOPHANE" IN SALE OF MOISTUREPROOF CELLULOSE FILM:

Referring to discussion at our Board meeting, held on July 27, 1934, the attached report gives, I think, a comprehensive picture of the decrease in our competitive position. Our competitor's big increase in the proportion of the total business did not take place until the first six months of 1934. The first question, therefore, seems to be why did Sylvania's increase take place in 1934 and not in the last six months of 1933. The answer to this must be one of two things; either a big improvement in their quality during this period or a change in their sales policy was inaugurated. I think we are safe in assuming that it was for the former reason and not the latter that their big increase took place. We have no evidence of any broad change in their sales policy or of their undue cutting of prices, giving extra discounts, etc.

Our license to Sylvania to operate under the moistureproof patents was sold to them in April 1933. It is evident that from this time on, through most of 1933, they were engaged in improving their quality by the use of our moistureproof patents and it is my opinion that they gradually arrived at an improved product by the end of 1933. I believe this is the fundamental reason why our competitors showed such an increase in the first six months of 1934.

From a perusal of the figures on page 13 it appears that Sylvania have improved their position in nearly all the major industries. We know from the figures and other facts that their big improvement took place in the baked goods industry and in the cigar industry and we know that by and large their increased proportion in these two industries was due to the quality of slip or ability to run well on machines. Their product does have a better running quality in machine operations, even though it lacks protection. At any rate it is clear that their quality is better than it was prior to their patent licenses from us and this combined with better machine running qualities put them in a position to obtain a large proportion of business where the protection feature is not important.

Cellophane TRADE MARK

"CELLOPHANE" IS THE REGISTERED TRADE MARK OF THE DU PONT CELLOPHANE COMPANY, INC.
TAXES WHICH ARE OR MAY BE IMPOSED UPON THE SALE OR PRODUCTION OF OUR PRODUCTS SHALL BE FOR THE ACCOUNT OF THE BUYER.

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There are a number of other more or less minor reasons set forth in this report which I do not consider of great importance, such as the extra sale of seconds, the combining of the various accounts, advertising allowances to American Chicle Co., etc., etc. Certainly these are not of such importance as to warrant any change in our general sales policy or any attempt to meet these special conditions. The major points mentioned above, to recapitulate, to which we must give our attention are: First, that Sylvania's quality during the first part of 1934 had improved to such a great extent from the moistureproof licenses we sold them that they naturally got more business than they did before; Second, the quality of protection of moistureproof "Cellophane" versus the machine running quality. We have always put protection first. Our competitor has not, and apparently to his advantage.

The problem, therefore, is to either improve our moistureproof "Cellophane" in the qualities which are lacking or if absolutely necessary, to offer two products, one with the protection paramount, and the other with low protection but better machine running qualities. This latter alternative will not be attempted until we are sure that the first cannot be accomplished.

This matter will be reviewed again periodically.

L. A. Yerkes,
PRESIDENT.

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Defendant's Exhibit No. 543

COMPETITIVE POSITION ON MOISTUREPROOF SALES

To show the trend in sales of moistureproof transparent material between ourselves and the Sylvania Industrial Corporation during the period in which they have operated under a license from us, it is necessary first, to define the conditions existing at the time the license was granted.

The first royalty payment, and consequently the first report of tonnages sold by Sylvania, was made to us shortly after June 30, 1933, and covered the period of two months and three days. This tonnage, at that time, showed that their sales represented approximately 12% of the combined tonnage for that period.

During the last six months of 1933, for which we have actual records, Sylvania reported the sale of 1,724,222 pounds of moistureproof material, during which period to the end of the calendar year 1933, our own sales were 11,399,099 pounds. This makes a total slightly over 13,000,000 pounds sold during that period, and shows Sylvania's volume to be 13% of the combined sales during those months.

One of the largest items of our sales during that period was the volume to the cigarette trade which, in that period represented in excess of 3,874,300 pounds, our net volume, exclusive of cigarettes, being 7,524,800 pounds. On account of the size of the accounts, and our relations with that trade, there is no comparable group of business in the Sylvania tonnage. Also, the cigarette volume is practically saturated insofar as its use of Cellophane is concerned, and it is not possible to show continued

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percentage growth on this volume. The volume of manufacture of cigarettes during the past year has maintained at a rather uniform level and while slightly in excess of the previous year, does not yet compare favorably in volume with the peak years earlier.

We point this out because to show the trend in percentages by respective concerns, we believe it is desirable to compare sales of our own material with theirs, with the cigarette volume deducted.

Making the cigarette deduction from our own figures shows that during the last six months of 1933 Sylvania's volume represented 18.6% of the combined volume of sales less the cigarette volume sold by us. So far as their volume in relation to our own is concerned, it may be said to have remained constant during the latter half of 1933.

In considering the volume for the first six months of 1934, Sylvania reported sales of 2,717,400 pounds for that six months period, a gain of 993,200 pounds or 57.6%. Our comparative sales, excluding export and cigarette volume, totaled 8,279,500 pounds during the same period, a gain of 754,700 pounds, or 10%.

It will be noted that the Sylvania percentage of combined volume less cigarettes, increased from 18.6% in the last half of 1933 to 24.7% in the first half of 1934, and that their actual increase in pounds sold, was greater than our own.

The change in respective volumes, therefore, on a basis of these figures is shown to represent 670,000 pounds in the six months period. In other words, had the Du Pont sales been 8,950,000 pounds instead of 8,279,500 pounds, and the Sylvania

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sales 2,050,000 pounds instead of 2,717,000 pounds for the period, the percentage would have remained practically constant. Therefore, it becomes necessary and desirable to discuss conditions that have brought about this transition of 670,000 pounds from our potential volume to the total of competitive volume.

Detailed analysis will be attempted for the six months sales to the end of June 1934, to show the transitions that have occurred and the conditions that have developed in relation to competitive sales that have combined to bring about this change in volume.

To cover the figures discussed above, we tabulate herewith, the following summary:

SALES

MOISTUREPROOF ONLY

6 Months to December 31, 1933	Pounds	Percent
Du Pont (U.S. only and less cigarettes)	7,524,800	81.4%
Sylvania	1,724,200	18.6%
Total	9,249,000	100.0%

6 Months to June 30, 1934	Pounds	Percent
Du Pont (U.S. only and less cigarettes)	8,279,500	75.3%
Sylvania	2,717,400	24.7%
Total	10,996,900	100.0%

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COMPETITIVE CONDITIONS PRIOR TO THE LICENSE

It should be noted that the competitor's position prior to obtaining a license under the Du Pont moistureproof patents was definitely more difficult for them and more advantageous to ourselves than has since existed. For instance, in his early solicitation of trade he was confronted with the position on the part of certain important users that they could not consider his material inasmuch as they understood the process was a patented one owned by Du Pont.

He met this in a good many instances, and in some cases was led to say to them that the competitor would assume the responsibility for any litigation that might ensue, in an effort to protect the prospective customer from difficulties in this direction.

In a number of cases, this was not particularly impressive, and competition found it a definite stumbling block to securing participation in a considerable portion of our major volume. Further, they were making definite efforts to avoid, as far as possible, infringement of the patents in question, and for a long time, maintained a product produced by what is known as a "three-way" formula against the four-ingredient one provided for in our patents and which resulted in definitely inferior material from a protective point of view and competition did not, until it appeared litigation would be settled, regularly offer a material containing a four-way process in their product.

Particularly in the case of converters, printers and bag makers was this effective against them, inasmuch as the resale of their product to the consuming trade would have involved con-

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tingent liability on their part, and competition had considerable difficulty in establishing satisfactory converter connections in a variety of locations on account of this feature.

Even in the early days after license was issued, until they improved their product using the processes described in our patents, they still found it difficult to interest a number of converters in dividing their volume.

After it became possible for them to definitely convince this class of trade that the possibility of litigation was passed and that they had not only rights, but the ability now to make even an improved material, were they able actually to more successfully develop their sales contacts in this direction.

SALES DETAIL

During 1933, we were engaged aggressively in presenting to the baking industry as a whole - particularly on special breads and fancy sweet dough goods - a program providing for the greatly increased use of transparent wrappings of the moistureproof type, and as a result of this we have substantially increased our volume in this industry. With competitor's ability to sell an improved material, and one that was properly licensed under the product patents, he found it possible to make substantial headway in the Baking industry also, because of the largely increased use on baked goods. While our volume has definitely increased in this direction, we know also that competitor's volume has likewise substantially increased in the baking industry.

The competitor for the past year or more has offered to the trade generally, a product that had the quality of heat sealing upon itself in a more satisfactory fashion than what we

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were able to accomplish in our standard moistureproof Cellophane.

While such seal on his moistureproof product was accomplished with some sacrifice of protection, it did process better on the machines in a number of industries than did our material, that afforded a better grade of permanency of protection to the products involved.

Several months ago we developed a moistureproof material with a heat sealing quality which we know as M.S.T., and which we differentiate from our standard M.T., which latter has a higher protective quality, but lacks the heat sealing quality to a remarkable degree. Our best protective material in moistureproof quality today does not yet provide a satisfactory heat seal. We have, however, in M.S.T. a more than satisfactory heat sealing material that is definitely advantageous in certain industries such as the baked goods industry where it is largely sold, but it is objected to in the cigar industry inasmuch as it seals the wrap around the cigar so tightly that the cigar could not be easily forced out of the tube by pressure on the lower end.

Competition has presented their material with a lighter heat seal and a satisfactory opening quality to the cigar trade, with rather satisfactory results to themselves. They have, undoubtedly, shown substantially less sale in the first half of this year to the same trade.

Cigar sales in the first six months of 1934 were less than the last six months of 1933 by approximately 10%, and as a result of this and smaller competitive gains, we show a loss of 137,000 pounds. We estimate our competitor's increase in this line at 20,000 pounds during the first half of 1934. M796

QUALITY DETAIL

During the past year, also, we have had definite and rather serious complaints from certain of our principal cigar accounts that the permanency afforded by a wrap of moistureproof Cellophane was not asgood as it once was, particularly in the days of the early adoption of moistureproof Cellophane for the wrapping of cigars.

There has been a very substantial amount of work during the past year done both in the Technical Department and in the Production and Process Departments in an effort to improve the moisture-protective quality, particularly over an extended length of time, say six months, with the thought of improving the permanency of our protection. This has been our most pressing problem in quality developed during the past year, and while we have made some progress, we are not yet at the point where we are satisfied that this feature of our material is all that it should be and it is particularly difficult to attain it without sacrificing other qualities such as the quality of "slip", which is the ability of the material to run satisfactorily at normal speeds through wrapping machines and which is looked upon as an important quality by users of the material in order to facilitate their productive efficiency.

We also have the problem of a reduced clarity as we improve the permanency of our material, particularly with the present type of lacquers produced for us by Parlin and this whole program has been for many months under a definite plan of study and cooperation between all of our departments and the Parlin group looking to definitely improved and much more uniform qualities

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in this direction. There is hope we will yet attain a much more highly protective product for a longer period of time and that such protection will be attained with a proper degree of slip and clarity that will make the material acceptable to these larger units for their continued use.

The competitive material, while not affording the degree of protection or permanency of protection that our present material provides, does definitely provide a fairly satisfactory protection at least for a reasonable period of time, and in addition to this, has better qualities of slip and clarity than we have been able to attain. Perhaps we are wrong in stressing the protective quality but, over a period of time, this is what the cigar industry requires.

We have not been willing to duplicate their material in its lack of protective qualities because we believe the first essential of moistureproof material is real protection to the goods involved. Competition has, however, taken an opportunist attitude on this program which has taken quite some time to develop, and has stressed the clarity and easy handling in running qualities of his material. We believe this will react unfavorably on them ultimately and have some very definite reasons backed up by statements of important consuming trade that they do not regard his protection as satisfactory.

SPECIAL DEALS

There are a number of cases where special arrangements have been made by the competitor providing for the use of his material, in some instances on a rather unusual basis. One case

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in particular is the Freihofer Baking Company of Philadelphia and vicinity with whom arrangements have been made to advertise Freihofer's products in the colored comic supplements in the Philadelphia district, specifying they are wrapped in Sylphrap and for which publicity the competitor pays the bills. The same thing is true of the American Chicle Co., in their advertisement of Chiclets, using also the colored comic supplements in certain sections and larger centers.

The competitor takes the position that many of our customers advertise Cellophane on account of its being widely known under that name, and we, in turn, advertise in certain trade papers, the product of some of our customers, and that in lieu of this, he finds it desirable to make these special arrangements in certain cases where the volume justifies his doing so. We estimate the tonnage to Freihofer and American Chicle, on this advertising basis, at about 60,000 pounds per quarter. On account of the growth of activity in special breads and Freihofer's participation in this activity, we suspect the volume in that case may be greater than estimated.

We have never been accustomed to extend our quantity discount to any group of buyers except those owned by one financial interest, and we continue to maintain this policy. There are, however, two groups in the baking industry in the nature of close cooperative trade associations, one operated under the name of W. E. Long and Co. in Chicago, which provides technical service, mechanical engineering service on equipment, analytical tests, purchasing standards, publicity and advertising preparation, etc.,

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for their clients - a group of bakers across the country. They have repeatedly solicited us in the past to make it possible for them to sell their small and medium-sized members on a quantity basis by a group discount, that would permit their members competing with some of the larger units having a larger purchasing power.

The other group is the Quality Bakers of America, so called, and both of these are banded together for profit reasons. Sylvania has, during recent months, extended a quantity discount agreement to these two groups of buyers with the thought that these groups will split the commission with the small consumers and themselves, and this represents, we believe, a substantial part of his increase in the baking industry. We have not seen fit to follow this and believe it is inadvisable to extend quantity discounts to groups of this type.

It is the competitor's custom also, in the case of large and important trade, to offer them the privilege of buying on a quantity discount basis by combining their purchases from certain of his converters, fabricators and printers, with their direct purchases of unprinted material that they may consume, and to give them a quantity discount based on this joint quantity. We find it inadvisable to do this because of the complications involved with converters who buy, themselves, on a quantity discount basis and in the case of Swift & Co., for a period of a year at least, this represented a substantial volume to them.

There is also the case of the A. & P. chain store system whom we have been accustomed to supply in the past, in part, at a number of their different locations. During the latter part

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of 1933, Sylvania made a special arrangement with them the details of which we have been unable to learn, but which is presumably founded on joint discount between printed wraps and unprinted material bought directly by them, with the result that the various district offices of A. & P. have diverted their entire purchases from us, which amounted to 30,000 pounds during the first half of 1933, to competition. Also, it so happens that during the current months, A. & P. volume is increasing particularly in relation to the wrapping of many of the specialties in their baked goods department, and there is in this instance a fairly substantial volume of new business that has accrued to competition on account of this growth.

We have been selling U.S. Envelope Co. practically 150,000 pounds quarterly for sometime. During the early part of this year, we were asked by them for preference in envelope purchases in reciprocity. We were unable to arrange a satisfactory basis on this with Wilmington and as a result, lost 40,000 pounds in June to competition.

In comparing the first six months of 1934 with the last six months of 1933, we must take recognition also of the different attitude at present existing in the minds of a number of our principal accounts as compared with the months of July and August, 1933. At that time, they were buying in larger volume and deliberately increasing their inventories in a number of cases in anticipation of higher prices - while today their state of mind on this is just the reverse and a number of them have substantially reduced the volume in our line against what they were carrying a year ago.

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SECONDS

Also, we have been operating at a much more satisfactory operating efficiency during the first half of this year in the production of moistureproof seconds than was the case during 1933. With smaller "seconds" production, we were obliged to restrict and curtail sales of M.T. seconds, and in a number of cases, have lost business to competition in so doing. During the last six months of 1933, we sold 1,091,000 pounds of M. T. seconds and during the same length of time in the first half of of 1934 we sold but 666,000 pounds of M. T. seconds - or a shrinkage of 435,000 pounds on "seconds" volume during that period. Not more than half of this volume were we able to replace with first quality material, with the result that we sacrificed to competition on this item a figure that we believe to be at least 200,000 pounds.

Against the total difference of 670,000 pounds during the six months period which is the extent of his improvement in volume, and of which we can figure we have only lost a maximum of less than 250,000 pounds first quality goods directly transferred from our business to his, we have, as an offset to this business, received royalties from his volume, in excess of $30,000 or a substantial rate of net return to us on that volume.

This does not, of course, indicate that every effort is not being made to minimize the gain in volume and in percentage at our expense but on the contrary, every effort is being bent to turn back to ourselves the individual accounts which represent a substantial part of his volume.

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OUR SALES M.T. DOMESTIC ONLY	6 Mos. Ending 6/30/34	6 Mos. Ending 12/31/33	Incr./ Decr.
Cigars	1,062,941	1,200,255	- 137,314
Candy	579,981	629,632	- 49,651
Baked Goods	3,052,420	2,307,041	+ 745,379
Food Products	223,455	265,036	- 41,581
Drugs, Perfume & Soaps	171,882	237,006	- 65,124
Jobbers	830,567	795,213	+ 35,354
Converters & Fabr.	1,929,309	1,657,914	+ 271,395
Cigarettes	4,085,999	3,874,342	+ 211,657
Total including cigarettes	12,365,500	11,399,099	+ 966,400
Total excluding cigarettes	8,279,501	7,524,800	+ 754,700

SYLVANIA'S ESTIMATED M. T. SALES	6 Mos. Ending 6/30/34 (Pounds)	6 Mos. Ending 12/31/33 (Pounds)	Increase
Cigars	200,000	180,000	20,000
Candy & Chewing Gum	191,000	141,000	50,000
Bakers	1,200,000	660,000	540,000
Food Products	45,000	24,000	21,000
Perfumes, Soap & Drugs	14,000	10,000	4,000
Miscellaneous Accts.	22,000	12,000	10,000
Agents & Jobbers	296,000	203,000	93,000
Converters	712,000	475,000	237,000
To Balance	37,000	19,000	18,000
Total	2,717,000	1,724,000	993,000

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COMMENT ON COMPETITIVE SALES

We show a loss of 137,000 pounds in Cigar volume for the first half of this year. The total number of Cigars manufactured was less by an amount approximating 10% for the first half of 1934, compared with the latter half of 1933. As a result of this, 100,000 pounds of this shrinkage in our volume is due to reduction in Cigars manufactured and sold. For the same reason Sylvania's volume would undoubtedly be affected by the same percentage, or approximately 18,000 pounds, and we estimate that we have lost to competition during this first half of 1934, an amount estimated at 37,000 pounds, so that Sylvania's Cigar tonnage may be up 19,000 or 20,000 pounds, whereas ours is reduced 137,000 pounds.

In the case of Candy, our sales in the first six months of 1934 are less than the last six months of 1933 for the reason that purchases by Wrigley are less to the extent of one car, or 30,000 pounds, during that period. There is an additional shrinkage on our part of 20,000 pounds during this period, which we attribute to loss of certain items to the competitor and also to curtailment of "seconds" to a small extent, to this trade. We are, therefore, charging ourselves with having lost to our competitor approximately 20,000 pounds. In addition to this, he has undoubtedly increased his volume with the American Chicle Co. in connection with his special advertising deal with them, to the extent of another 20,000 pounds, and this, with miscellaneous increases to the smaller trade generally, accounts for the increase in volume which we credit to his Candy volume.

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In the case of Baked Goods, we have lost during the first half of 1934 a volume of "seconds" business estimated at 425,000 pounds. This estimate is based on actual reduction in the sales volume of this item. This is mentioned elsewhere in the general discussion of "seconds".

We have also lost business to Bakers on account of the competitor's relationship with W. E. Long & Company and the Quality Bakers Group, mentioned previously, to the extent of 10,000 pounds and because we did not encourage either of these concerns to sell our material at a time when they were seeking quantity discount agreements from us. We have the information that their volume has very materially increased because now they have a definite profit motive for themselves and a financial interest for their members, buying their transparent sheeting through this combined arrangement, and we believe that the six months period in these two groups represents a volume of 70,000 pounds to the competitor.

We credit him also with 10,000 pounds of business transferred from ourselves to him on account of the Cox Baking Co., of Long Island, for credit reasons.

We believe also that the competitor has availed himself of a market for "seconds" in the Baked Goods industry to the extent of 200,000 pounds during this period, which market was made possible out of our shortage of "seconds" previously referred to. We also believe that the competitor's growth in the Baked Goods industry generally, easily represents another 250,000 pounds of business to him during the first six months of 1934 and this new Baked Goods volume would not be at all out of proportion in percentage with our own growth in this line.

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We can, therefore, readily account with the above item in Baked Goods for a total of 530,000 pounds, not including the growth in the A. & P. which probably amounted to at least 10,000 pounds, and in this fashion we account for our estimate of the growth of Sylvania in the Baked Goods industry of 540,000 pounds for the period.

This is confirmed by a direct statement by the competitor, that a very great portion of his increased tonnage during this year was due to expansion of the use of this material in the Baked Goods Industry.

Under Food Products we lost the A. & P. account, which represented 30,000 pounds to us in the previous six months period, to the competitor on account of the special arrangements mentioned previously, and the competitor, in turn, has benefited in their growth in volume, so that we credit the A. & P. account as good for 50,000 pounds to him during the last six months.

Under Drugs, Soaps, etc. we have a decline in volume of 65,000 pounds during the period. This is due to reduction in volume of sale in these items and to the curtailment of production in certain places. The reduction in volume, of course, affects competition also and while his volume has never been heavy in this line, we are giving him credit for an increase of 4,000 pounds to certain individual accounts.

Among the Converters, we mentioned the U. S. Envelope Co. previously in this survey and this accounts for a loss on our part of 40,000 pounds during the first half of 1934. We believe this was given to the competitor on their declared program of giving him some of their volume. We are, therefore, crediting

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him with an increase of 40,000 pounds to this converter during the period.

We have in the above described something in excess of 750,000 pounds of material covering reduction in our own volume in the first six months of 1934, below the figure of the last six months of 1933. Not all of this however, was given to competition, but in the detailed analysis submitted above, we are giving him credit for 400,000 pounds of business transferred from our own volume. Of this, however, 200,000 pounds is "seconds" volume in the Baking Industry, and while it represents volume, it does not represent the margin of profit nor the stability of trade that does the first grade material.

The balance of the increase which competition has made during the first half of 1934 over the last half of 1933, is due to the addition of new and added volume not taken from us and which is represented very largely by substantial increases in the sales of transparent sheeting to the Baked Goods Industry generally, and to a smaller degree to the expansion in one or two other added lines mentioned above.

The tabulation given above setting forth the competitor's position in moistureproof sales in the last six months of 1933 as compared with the first six months of 1934, represents in detail, our best estimate as to his position.

Detailed direction of sales effort has already been provided for the proper work on these points of possible volume and it is believed that a continuation of this comparison during ensuing quarters will be found of substantial interest.

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There are ample exhibits and detail available to support all of the figures and tabulations herein which give our best judgment as to the actual position of the principal accounts involved. The detailed summary attached will provide a rather clear indication of wherein the activities of the two concerns diverge and some of the things that are necessary on the part of competition to hold some of this business.

It will also provide some idea of the relative qualities of the two materials in the eyes of the trade, and furnish an index also to the necessity of our continuing direct and widespread research and productive activity to improve and maintain consistency and uniformity of an even higher quality product.

Any further detail that has not been covered to the satisfaction of the executives herein, we will be glad to attempt to supply on their request after they have had an opportunity to review this subject.

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SUMMARY OF COMPETITIVE BUSINESS
BY INDUSTRIES, REASONS, AND IMPORTANT ACCOUNTS
(All Figures Shown are Quarterly Estimates)
Detail Taken From Sales Reports

BAKED GOODS

A. Estimated Competitive Quarterly Sales (Moistureproof Only) 600,000#

B. Reasons

1. Miscellaneous	-	205,000#
2. Credit	-	93,450#
3. Price Differential	-	77,850#
4. Seconds Supply	-	93,900#
5. Quality	-	68,750#
6. Deliveries	-	5,100#
7. Smaller Accounts	-	55,950#

C. Principal Accounts by Reasons

1. Miscellaneous

General Baking Co. (35,000#) New York, N. Y. - Long standing disagreement on our policies. However, our sales and position with this account are constantly improving and it is estimated we now receive 75% or more of their business.

Ward Baking Co. (30,000#) New York, N. Y. - Seconds supply, split shipments, and contention Du Pont has forced certain unprofitable conditions on the industry. However, our sales and position are improving. Du Pont has approximately 80% of the business here.

Lantz Baking Co. (3,000#) St. Louis, Mo. - Dispute with our jobber led to switch. Now buying principally Du Pont again.

Hazelton Baking Co. (3,000#) Hazelton, Pa. - Sylvania equipped wrapping machine with sealing device.

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Miscellaneous (Continued)

United States Bakery, (12,000#) Portland, Oregon.	- Dissatisfaction with adjustment on previous complaint, on material bought thru W.E.Long. Prejudice against DuPont. Stopped buying from us in March.
Norristown Baking Co. (3,000#) Norristown, Pa.	- Sylvania equipped wrapping machine with sealing device.
R. J. Spaulding, Inc. (6,000#) Binghamton, N.Y.	- Sylvania equipped wrapping mch with sealing device.
New England Bakery (2,500#) Pawtucket, R. I.	- Policy to split business.
Zimmerman's Bakery (1,500#) Hannibal, Mo.	- Dissatisfied with Brooks service.
Kohler & Fritz (1,000#) Lansdale, Pa.	- Personal preference.
Haller Baking Co. (1,000#) Pittsburgh, Pa.	- Buys from Sylvania converter.
Western Bakeries (6,000#) Los Angeles, Cal.	- Past grievance with Du Pont and Zellerbach.
Barker Baking Co. (1,500#) Portland, Oregon.	- Competitive agent's account.
Helm's Baking Co.Ltd.(1,000#) Los Angeles, Cal.	- Competitive agent's account.
Dortch White Cross Bakery Washington, D.C. (1,000#)	- Sylvania equipped wrapping mch with sealing device.
Heiner Bakery Huntington, W. Va.	- Personal friendship.

3. Credit

Ce-Lect Baking Co. (20,450#) Brighton, Mass.	- Not satisfied with our credit terms.
Southern Service Corp.(10,000#) Atlanta, Ga.	- Unsatisfactory credit history.
Becker's Bakery (6,000#) Spartansburg, S. C.	-

Credit (Continued)

Copperthite Pie Co. (3,000#) -
Norfolk, Va. & Baltimore, Md.

Collins Baking Co. (3,500#) -
Atlanta, Ga.

Peter's Bakery (4,000#) -
Port Washington, Wis.

Louisiana Baking Co. (4,000#) -
New Orleans, La.

United Baking Co. (4,500#) -
Schenectady, N. Y.

Dortch Baking Co. (2,500#) -
Atlanta, Ga.

Cox Baking Co. (10,000#) - Account has been a loyal
Jamaica, N.Y. DuPont customer until re-
cently but went into re-
ceivership and our Credit
Dept attached $4,500 cash.

Barbara Ann Baking Co. Ltd. -
Los Angeles, Cal. (4,000#)

Sterling Cake Co. (1,000#) -
Brooklyn, N.Y.

Mack Baking Co. (1,500#) -
Brewer, Me.

Bay State Baking Co. (1,500#) -
Brockton, Mass.

Hays Baking Co. (1,000#) -
Oil City, Pa.

Seven Baker Brothers (1,000#) -
Pittsburgh, Pa.

Ambrosia Cake Co. (1,000#) -
Jacksonville, Fla.

3. Price Differential

Mama Cookie Co. (12,500#) - Split shipments.
Chicago, Ill.

Price Differential (continued)

Great A. & P. Tea Co. (25,000#) New York, N. Y.	- Definite figures unknown. Believed to be conservative estimate. More satisfactory machine operation, source of supply for seconds and price advantage.
Gorman's Bakery (2,500#) Pawtucket, R. I.	- Buy through Quality Bakers — a purchasing association whom we will not grant agreement because of their unwillingness to sign guarantee clause in our contract. Quality Bakers is a voluntary purchasing association which takes no financial responsibility for members' debts.
My Bread Co. (3,000#) New Bedford, Mass.	- Through Quality Bakers.
Stroehman Baking Co. (6,000#) Harrisburg, Pa.	- Through Quality Bakers.
Saylor's Bakery (1,000#) Tamaqua, Pa.	- Through Quality Bakers.
Liberty Baking Co. (1,000#) Pittsburgh, Pa.	- Through Quality Bakers.
Staudt's Bakery (1,000#) Raleigh, N. C.	- Through Quality Bakers.
Waldensian Bakery (1,000#) Valdese, N. C.	- Through Quality Bakers.
American Bakeries (9,000#) Atlanta, Georgia.	- Split shipments.

Among the smaller bakers there are 16 reported as buying through W. E. Long & Co. - a bakery supply house - whose combined purchases per quarter aggregate over 10,000 pounds.

4. Second's Supply

Pie Bakers of America (10,000#) Newark, N. J.	- Wholly Du Pont until seconds supply fell off. Were using seconds on 5# pies which could not stand cost of firsts. Now going into roll stock with Du Pont getting business.

4.

Seconds Supply (continued)

Frisbie Pie Co. (5,000#) Bridgeport, Conn.	- Sylvania previously supplied seconds and thirds. Follow up and service has resulted in our now getting bulk of business.
Butterkrust Baking Co. (10,000#) Sunbury, Pa.	- Also cooperation.
New Standard Bakery (3,000#) Philadelphia, Pa.	- Du Pont had all business until April. Lack of seconds caused buying from Sylvania. We still hold 70%.
Sanitary Grocery Co. (3,000#) Washington, D. C.	- Bought Du Pont prior to February. Lack of seconds caused going to Sylvania. Du Pont now getting bulk of business again.
Berwick Cake Co. (1,500#) Boston, Mass.	- Also disputes our freight rate.
Fox Baking Co. (1,000#) York, Pa.	-
Stauffer Biscuit Co. (1,000#) York, Pa.	-
Gundersheimer, Inc., (1,000#) Washington, D.C.	-
Hershey Baking Co. (1,500#) York, Pa.	-
Letterman Baking Co. (5,000#) Lewistown & Bloomburg, Pa.	- Account just regained from Sylvania when they couldn't supply seconds.
Harris Boyer (1,000#) Johnstown, Pa.	-
Shaffer Stores (1,000#) Altoona, Pa.	-
Chesapeake Baking Co. (1,400#) Baltimore, Md.	-
Virginia Baking Co. (1,500#) Richmond, Va.	-
Case Moody Pie Co. (1,500#) Chicago, Ill.	-

Seconds Supply (continued)

Smith's Bakery (1,000#) Mobile, Ala.	-
La Nasa Bakery (1,500#) New Orleans, La.	-
Purity Bakeries (2,000#) Chicago, Ill.	-
Farmcrest Baking Co. (6,000#) Detroit, Mich.	- Lack of seconds caused buying for pies at Eastern plants. Sylvania now eliminated.

5. Quality

Freihofer Baking Co. (30,000#) Philadelphia, Pa.	- Originally went to Sylvania because of odor complaint. Also Sylvania has given advertising allowance and other concessions as yet undetermined.
Perfection Biscuit Co. (5,000#) Fort Wayne, Ind.	- Odor
Campbell Taggart Baking Co. Kansas City, Mo. (5,000#)	- Odor. Complaint by Texas plants.
Fehr Baking Co. (1,500#) Houston, Texas. (Subsdy. Campbell Taggart)	- Odor.
Fisher Baking Co. (5,000#) Newark, N. Y.	- Better wrapping efficiency on machine.
Williams Bakery (2,000#) Scranton, Pa.	- Trouble with machine operation
H. Jevne Co. (4,000#) Los Angeles, Calif.	- Claim better heat seal.
Dolly Madison (3,000#) Los Angeles, Calif.	- Claim better machine operation.

6. Deliveries

Continental Baking Co. (2,500#) Seattle, Wash.	- Competitive agent gives quicker delivery than Zellerbach. Now eliminated.

CANDY

A. Estimated Competitive Quarterly Sales - 169,890#
90,500# M.T.

B. Reasons

1. Price differential	-	67,650#
2. Seconds Supply	-	37,070#
3. Miscellaneous	-	17,950#
4. Quality	-	23,650#
5. Credit	-	15,100#
6. Quicker Delivery	-	8,470#
		169,890#

C. Principal Accounts By Reasons

1. Price Differential

Daggett Chocolate Co. (31,000#) Cambridge, Mass. - Believed to be receiving concession as to freight and case price on split shipments.

American Chicle Co. (25,000#) Long Island City, N. Y. - We have enjoyed only a very small part of this account's requirements in the past and practically none in the past 2 or 3 years. Large portion of requirements are purchased from Forbes Litho. Co. - competitive printer - who were the first to perfect continuous roll printing. It is reported Sylvania permits both printed and unprinted purchase to apply against agreement. Also reported Sylvania has made advertising allowances for American Chicle Co. featuring Sylphrap in advertising. Also claim Sylvania was the first to develop heat sealing moistureproof Cellophane.

Trees Candy Co. (1,500#) Newark, N.J. - Plain colored seconds at P.T. price.

2. Seconds Supply

Mason, Au Magenheimer, Brooklyn, N.Y. - (3,000#)
Zion Candy Industry, Zion, Ill. - (4,000#) - Also credit
Paul Beich Co., Chicago, Ill. - (1,500#) - Colored Thirds
National Candy Co., St. Louis, Mo. - (3,000#)
Keppel & Rouf, Lancaster, Pa. - (2,000#)
Minter Bros., Philadelphia, Pa. - (3,000#)
Co-Ed Candy Co., Pittsburgh, Pa. - (1,000#)
Meadors Mfg. Co., Greenville, S. C. - (3,000#)
Tom Huston Peanut Co.,-Columbus, Ga. - (4,500#) Also Credit

3. Miscellaneous

Goudey Gum Co. (1,500#) Boston, Mass.	- Purchasing printed roll from Forbes-competitive printer.
Geo. Ziegler Candy Co. (7,500#) Milwaukee, Wisc.	- Friendship with local Sylvania jobber - Morgan White.
Wm. Wrigley, Jr. (2,500#) Chicago, Ill.	- Ability to meet delivery requirements and price on #450 M.T. red used for tab opener quicker than we could.

4. Quality

United Candy Co. (8,000#) Boston, Mass.	- We are getting bulk of business but are giving Sylvania requirements for wrapping caramels due to claim competitive material handles better on machines and competitors converting machine to handle transparent sheeting. Recently placed large trial order with us. If satisfactory will give us future business.
American Candy Co. (7,500#) Selma, Ala.	- Claims Cellophane imparts odor to candy.
Tastyeast Co. (3,000#) Trenton, N. J.	- Recent roll shipment gave them trouble on machines.
Weaver-Costello Co. (1,000#) Pittsburgh, Pa.	- Odor complaint. Now 100% Du Pont.

8.

Hooten
Quality (continued)

Hooten Chocolate Co. (1,000#) Newark, N. J. - Sylvania seconds like firsts. Too many wrinkles in ours.

Edgar P. Lewis Co. (1,000#) Boston, Mass. - Considers it runs better on machines and imparts no taste.

5. Credit

Phoebe Phelps Caramel Co., Boston, Mass. - (3,000#)
W. H. Thompson Co., New Haven, Conn. - (1,500#)

6. Quicker Delivery

Comprised mostly of smaller accounts purchasing through local jobbers handling competitive material.

CIGARS

A. Estimated Competitive Quarterly Sales - 120,750# M.T.

B. Reasons

1. Quality	-	93,000#
2. Miscellaneous	-	18,000#
3. Price Differential	-	9,400#
4. Credit	-	350#
		120,750#

C. Principal Accounts by Reasons

1. Quality

American Tobacco Co. (10,000#) New York, N. Y. - Better appearance on Havana Cigars and also to keep informed on competitive material.

Consolidated Cigar Co. (30,000#) New York, N. Y. - More satisfactory mechanical operations. We are getting an increasing amount of this customer's business.

Diesel-Wemmer-Gilbert (10,000#) Detroit, Mich. - Securing more satisfactory seal with competitive material.

Jose Escalante (6,000#) Chicago, Illinois - Dissatisfied with adjustment made on quality complaint.

Quality (continued)

Garcia Grande Cigar Co. (9,000#) New York, N. Y.	- Secure better seal.
C. E. Bair Co. (5,000#) Craley, Pa.	- Claim Sylvania material operates better on machine.
J. A. Doll Cigar Co. (3,000#) Mt. Wolf, Pa.	- " " " "
M. & N. Cigar Co. (3,000#) Cleveland, Ohio	- " " " "
W. C. Fruniger (1,500#) Red Lion, Pa.	- " " " "
El Moro Cigar Co. (1,000#) Greensboro, N. C.	- " " " "
Cooney Bayer Cigar Co. (1,000#) Fort Wayne, Ind.	- " " " "
E. Popper Co. (1,000#) New York, N. Y.	- " " " "
Max Schwartz (1,000#) New York, N. Y.	- More satisfactory seal.
H. Traiser & Co. (3,000#) Boston, Mass.	- Claim poor handling of complaint several years ago.
E. Prospect Cigar Co. (1,500#) E. Prospect, Pa.	- Competitive material operates better on their own printing press.
Mazer-Cressman (6,000#) Detroit, Mich.	- Better seal with competitive stock. Promise to give us business on basis of improved stock when competitive agreement expires.
Metropolitan Cigar Co. (2,000#) Chicago, Ill.	- Claims competitive material operates better on machine.

2. Miscellaneous

General Cigar Co. (5,000#) New York, N. Y.	- Prefer two sources of supply. We are by far the principal supplier.
I. Lewis Cigar Co. (5,000#) Newark, N. J.	- " " " "

Miscellaneous (continued)

W. H. Snyder Co. (3,000#) Windsor, Pa. - Reason unknown.

3. Price Differential

Corrall-Wodiska (4,500#) Tampa, Fla. - Mostly printed roll stock through Forbes Lithograph Co. who is quoting them under our printers. Sylvania feature their cigars in trade paper advertising.

Remainder is due to competitive tube maker underquoting our converters.

FOOD PRODUCTS

A. Estimated Competitive Quarterly Sales - 40,170#
22,500# M.T.

B. Reasons

1. Miscellaneous	-	21,700#
2. Credit	-	7,970#
3. Quality	-	4,350#
4. Seconds Supply	-	3,700#
5. Price Differential	-	2,000#
6. Quick Delivery	-	450#
		40,170#

C. Principal Accounts by Reasons

1. Miscellaneous

Schoneberger & Son (3,000#) Chicago, Ill. - Friendship

Chicago Macaroni Co. (5,000#) Chicago, Ill. - Always competitive account and satisfied.

I. J. Grass Noodle Co. (5,000#) Chicago, Ill. - Satisfied with present source. Gives us order now and then.

2. Credit

Viviano Macaroni Co., Carnegie, Pa. - (1,000#)
Holland Sandwich Co., Converse, N. C. - (1,000#)
Pfaffman Egg Noodle Co., Cleveland, Ohio - (2,000#)
Barrett Food Products Co., Atlanta, Ga. - (2,500#)

3. Quality

Arcadia Food Co. (1,000#) - Buckled rolls. Has just resumed buying from Du Pont.
New York, N. Y.

H. C. Krumm Macaroni Co. (2,000#) - Bag breakage.
Philadelphia, Pa.

DRUGS, PERFUMES AND SOAP

A. Estimated Competitive Quarterly Sales - 14,920#
7,000# M.T.

B. Reasons

1. Quality	-	9,200#
2. Price Differential	-	1,950#
3. Credit	-	2,370#
4. Seconds	-	900#
5. Quicker Delivery	-	500#
		14,920#

C. Principal Accounts by Reasons

1. Quality

Crazy Water Crystal Co. (7,000#) - More satisfactory performance on machine.
Crazy Water, Texas.

Luden's (1,500#) - See Freihofer Baking Co. controlled by Freihofer.
Reading, Pa.

2. Price

W. T. Rawleigh Co. (1,500#) - Claim to be getting better price from competitor. 2% extra discount on each order.
Freeport, Ill.

3. Credit

Gibson-Howell Co. (1,000#) - Now buying from Catty.
Jersey City, N. J.

CONVERTERS

A. Using both Du Pont and competitive stock - Approx. 250,000#
M.T. Only 175,000#

American Paper Goods (20,000#) Kensington, Conn.	- Envelope Manufacturer. Converts more easily.
Continental Paper Bag Co. New York, N. Y. (25,000#)	- Bags. Split business according to proportion of pulp business placed by Du Pont and Sylvania. Sylvania estimated to be securing 15% of business.
Forbes Lithograph Co. (75,000#) Chelsea, Mass.	- Printers. 90% Sylvania material, 10% Du Pont. Of the 75,000# we have accounted for approx. 30,000# as noted in detail by accounts and industries.
Alexander Herz Co. (12,500#) New York, N. Y.	- Envelope Manufacturer. Sylvania is principal supplier.
Package Paper Co. (10,000#) Holyoke, Mass.	- Printer. We are principal supplier.
Traver Corporation (25,000#) Chicago, Ill.	- Printers. Du Pont 70% - Sylvania 30%.
Union Bag & Paper Co. (35,000#) New York, N. Y.	- Bag Manufacturer. Du Pont 75% - Sylvania 25%.
U. S. Envelope Co. (40,000#) Springfield, Mass.	- Bag Manufacturer. Recently commenced purchasing part of their requirements from Sylvania. Have been using 150,000# quarterly from us.
Pioneer Wrapper & Printing Co. Oakland, Calif. (5,000#)	- Printer. 80% of requirements is Cellophane through Zellerbach.

B. Converters using competitive material exclusively - M.T. estimated 180,000#

Daniels Mfg. Co. (230,000#) Rhinelander, Wisc.	- Printer. Estimated figure check by Shellmar.
Oneida Paper Prod. Co. (30,000#) Brooklyn, N.Y.	- Bags
Vis-o-Tube Co. (10,000#) Chicago, Illinois.	- Cigar tubes

B. Converters using competitive material (continued)

Ben-Mont Printing Co. (5,000#) Bennington, Vt.	- Printer
Crystal Tube Co. (10,000#) Chicago, Ill.	- Cigar tubes
M. H. Birge Co. (10,000#) Buffalo, N. Y.	- Printer
Miscellaneous competitive converters	- 10,000#.

** **** **

JOBBERS	- M. T. estimated 148,000#
Blake, Moffet & Towne (100,000#) San Francisco, Calif.	- Estimated figure. Definite information not available. Sylvania west coast agent.
Pollock Paper & Box Co. (30,000#) Dallas, Texas.	- Sylvania agent. Estimated figure.
Orchard Paper Co. (15,000#) St. Louis, Mo.	- Estimated figure.
Atlanta Paper Co. (15,000#) Atlanta, Georgia	- Estimated figure.
Miscellaneous paper jobbers	- 30,000#.

Defendant's Exhibit No. 546

April 20, 1936.

TO: C. F. BROWN, G.A.D.S.

FROM: H. O. LADD, M. S.R.S.

SUBJECT: CIGAR BUSINESS

REFERENCE: LETTER O.E.A. TO J.E.H. 4/10/36

In connection with the situation in the cigar industry outlined in Mr. Adamson's letter, the decrease in our direct sales of 14.8% for the first quarter 1936 vs the first quarter 1935 can be attributed almost entirely to a carryover of losses sustained in the second, third and fourth quarters of 1935. This situation does not represent any new major competitive losses with which we are not familiar or which have not been closely followed.

Accounts mainly responsible for the unfavorable comparison cited are as follows:

Porto Rican American Tobacco Co., who bought 22,080 lbs. in the first quarter of 1935; stopped buying in April of last year; and as yet are not regained.

John H. Swisher & Sons This customer bought 27,475 lbs. in the first quarter of 1935; began giving an increasing proportion of their business to the competitor in and subsequent to that period; bought only 7,854 lbs. in the first three months this year--a decrease of 19,621 lbs.

I. Lewis & Co., who bought 12,247 lbs. in the first quarter of 1935; subsequently increased competitive purchases at our expense; and bought only 247 lbs. in the first quarter of 1936--a decrease of 12,000 lbs.

T. B. Brooks bought 9,623 lbs. in the first quarter of 1935, following which a misunderstanding developed relative to unearned discounts, and the customer has since placed the larger share of his business with the competitor. Brooks bought 552 lbs. from us in the first quarter of 1936.

M797

C. F. Brown - Continued

Deisel Wemmer Gilbert (Lima plant). Principal purchases by this customer for the Lima plant have been placed with the competitor since the latter part of 1935. Comparative sales show a decrease of 6,620 lbs. in the first quarter of 1936.

The story on these accounts, of course, was reported during 1935 as was that on certain smaller accounts where the cumulative effect of previous losses is currently effective in holding down our volume.

Despite the foregoing, which are explanatory only in respect to first quarter comparisons, we can say definitely that our status in the cigar industry in recent months has taken a favorable turn, as may be seen by the following figures and analysis:-

4th Q. 1933	1st Q. 1934	Change
531,514 lbs.	502,301 lbs.	-29,213 lbs.
4th Q. 1934	**1st Q. 1935**	**Change**
524,458 lbs.	490,017 lbs.	-34,441 lbs.
4th Q. 1935	**1st Q. 1936**	**Change**
409,851 lbs.	427,049 lbs.	17,198 lbs.

For the first time in three years, first quarter sales exceeded those of the fourth quarter of the previous year, and while the gain was not large in poundage, it does represent an improvement in competitive position. In this connection, consider the following:-

Cigars Produced 4th Quarter 1935	Cigars Produced 1st Quarter 1936
1,895 Million	1,070 Million

17797

C. F. Brown - Concluded

Based on these figures, and calculating on the basis of 1200 cigars per pound of Cellophane, it is evident our direct sales to the industry should have wrapped about 38% of the total production in the last quarter of 1935 and our sales for the first quarter of 1936--45%. These figures, of course, do not include tube sales.

Further comparison of our sales to the cigar industry by quarters is tabulated below.

CHRONOLOGY OF CIGAR SALES BY QUARTERS

1933			
1st Quarter	546,460	lbs.	Relatively normal business
2nd Quarter	607,699	"	Beginning of inflation buying
3rd Quarter	689,718	"	Continuation of inflation buying
4th Quarter	531,514	"	Inventory adjustments
TOTAL.....	2,375,391	"	
1934			
1st Quarter	502,301	"	Competitive Losses
2nd Quarter	550,974	"	" "
3rd Quarter	627,378	"	" "
4th Quarter	524,458	"	" "
TOTAL.....	2,205,111	"	
1935			
1st Quarter	490,017	"	Competitive Losses
2nd Quarter	434,953	"	Large competitive losses
3rd Quarter	491,619	"	" " "
4th Quarter	409,851	"	Cumulated " "
TOTAL.....	1,826,440	"	
1936			
1st Quarter	427,049	"	Cumulated competitive losses, but definite indications of stabilizing and a gain in position for Du Pont.

M799

HOL:evw

Defendant's Exhibit No.

CC: C. F. BROWN

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE

"CELLOPHANE" DIVISION
MANUFACTURERS OF CELLULOSE FILM

July 1, 1938

TO: MR. J. E. HATT, M.

FROM: O. F. BENZ, D.S.

Subject: MONTHLY SALES REPORT - JUNE 1938

GENERAL BUSINESS CONDITIONS

There is a little evidence of a change for the better in business, and there seems to be a somewhat better attitude on the part of many of those we contact. This is especially true in the agricultural sections. There are also indications inventories are approaching normal although hand-to-mouth buying still prevails. There has been a fair success in the development of new items to offset decreases in the sales of established items of our customers. The remaining months of 1938 should show gradual improvement.

PROMOTION

Industries and products given special attention during the month include:

Baking

A campaign to promote machine wrapping in all logical directions - 5-cent cup cake is a typical example. Concentration on house-to-house operators continues, supported by our motion picture film.

Crackers

We are ricing hard on the trend towards visible package: to replace bulk sweet goods and the overwrapping of top line cartons.

Candy

Year-round promotion versus seasonal promotion on individually wrapped goods, fall and Christmas items.

11 1364

Cellophane

E. I. DU PONT DE NEMOURS & COMPANY
WILMINGTON, DELAWARE

"CELLOPHANE" DIVISION
MANUFACTURERS OF CELLULOSE FILM

Meat

Bulk sausage, picnics, butts.

Textiles

Shirts, laundries (blankets and dry cleaning)

Miscellaneous

Stationery (novelty units), stick macaroni and spaghetti, popcorn.

General

Broad campaign on Christmas packaging in all industries we serve.

Need for visible, protected unit packaging of foodstuffs (particularly bulk) based on rapid growth of self-service stores.

INQUIRIES AND PACKAGE DEVELOPMENTS

387 inquiries were received versus 545 last month including 20 "majors" compared with 26.

45 package developments were requested as against 47 in May. Baked goods and candy headed the list.

COMPETITION

Our principal competitor's campaign on our large accounts is intensified. There is ample evidence of every type of concession except the breaking of the basic price schedule including split shipments, payment of transportation charges, payment of increased quantity discounts, claims of better yield.

Goodyear appears to be more active in soliciting business in the packaging field. Their principal argument is better protection.

Cellophane
TRADE MARK

E. I. DU PONT DE NEMOURS & COMPANY
WILMINGTON, DELAWARE

"CELLOPHANE" DIVISION
MANUFACTURERS OF CELLULOSE FILM

The foil people are increasingly active in the cigar field and are evidently spending large sums in subsidizing manufacturers through advertising and field promotion.

COMPLAINTS

Formal complaints filed totalled 43 as compared to 49 in May.

Loose winding continues in top position and is on the increase as is also moisture bands. There have been a number of complaints on poor heat seal on both M.S.T. and L.S.T.

Complaints involving plant carelessness are in second place. Analysis of informal complaints not involving returns shows that 20 to 25 per cent are for this cause and the number to date this year has increased almost 80 per cent as compared to similar period in 1937.

Adjustments amounted to $7,235 compared with $8,029 in May, of which $2447 and $2458 were for quality reasons.

A FEW OF THE MORE INTERESTING NEW ITEMS IN "CELLOPHANE"

Hooker Products Corp., New York, New York.	Private brand soaps
✓ Atlantic Quick-Freeze Co., Inc., New Brunswick, Massachusetts	Frozen fillets
✓ White and Wyckoff Mfg. Co., Holyoke, Massachusetts.	Four different lines of greeting cards.
Morris Freezer, New York, New York.	"Wiltshire, Jr." brand, boys shirts in printed Cellophane
Transogram Company New York, New York.	Toys and novelties
✓ Boott Mills, Lowell, Mass.	Four printed face towels.

Cellophane TRADE MARK

E. I. DU PONT DE NEMOURS & COMPANY
WILMINGTON, DELAWARE

"CELLOPHANE" DIVISION
MANUFACTURERS OF CELLULOSE FILM

Valmour Undergarment Co., Passaic, New Jersey.	Printed bags for slips
✓ Trident Packing Company, Booth Bay Harbor, Maine.	Cans of sardines, printed
Morgan Cotton Mills, New York, New York.	Two different price units of dish towels; two in a package.
✓ Kelray Knitting Mills, Reading, Pa.	Underwear (printed)
Jacob Boltz Knitting Mills, Pottsville, Pa.	Sleeping Garment.(Printed)
York Caramel Company, York, Pa.	Caramel Unit
R-B Biscuit Company, Cleveland, Ohio.	Cracker Cartons
Kroger Groc. & Baking Co. Columbus, Ohio.	10-cent cracker cartons
Lance Packing Company, Charlotte, N. C.	5-cent cookie units.
Southern Biscuit Company, Richmond, Virginia.	10-cent bagged units of crackers.
Price Wilhoit Spec. Co., Frederick, Maryland.	Crackers in bags.
Sophie Tucker Food Prod., Baltimore, Maryland.	Crackers in bags.
Rittenhouse Candy Co., Philadelphia, Pa.	New bar; Printed.
Binghamton Candy Co., Binghamton, N. Y.	1-cent Pops - machine wrap.
Spaulding Bakeries, Binghamton, N. Y.	7-ounce popcorn in bags.

Cellophane

E. I. DU PONT DE NEMOURS & COMPANY
WILMINGTON, DELAWARE

"CELLOPHANE" DIVISION
MANUFACTURERS OF CELLULOSE FILM

Weco Products Company, Chicago, Illinois.	Dr. West's tooth brush overwrapped by machine.
Iten Barmettler Biscuit Co., Omaha, Nebraska.	Added two new bags - 15 cents each.
Salerno Megowen Biscuit Co., Chicago, Illinois.	Vanilla wafers in a boat 15 cents.
Loose Wiles Biscuit Co., New Orleans, La.	Added three numbers to their bag line; one tray item; five roll items
Junge Baking Co., Joplin, Mo.	Cooky assortment carton by machine.
Merchants Biscuit Co., Denver, Colo.	Saratoga Flakes in carton.
Paul Schulze Biscuit Co., Chicago, Illinois.	Assorted Snaps, carton overwrap.
Brown Cracker & Candy Co., Dallas, Texas.	Added 15 new items to their 10-cent bag line; 4 new roll items; two new caramel units.
Cincinnati Cake & Specialty Co., Cincinnati, Ohio.	"Sure Good" Graham crackers 15 cents.
Rath Packing Company, Waterloo, Ia.	Veal and lamb carcasses.
Papendick Baking Co., St. Louis, Mo.	Part loaf of graham bread 5 cents containing 7 slices.
Plough, Inc., Memphis, Tenn.	Bundling several drug items
Kingan & Co., Indianapolis, Ind.	Bulk sausage in china bowls
Kerber Packing Co., Elgin, Illinois.	Tenderized Calif ham, pure pork sausage; "Kottake Hams" and bacon squares.

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Cellophane
TRADE MARK

E. I. DU PONT DE NEMOURS & COMPANY

WILMINGTON, DELAWARE

"CELLOPHANE" DIVISION

MANUFACTURERS OF CELLULOSE FILM

Mr. J. E. Hatt -6- July 1, 1938

Michigan Macaroni Co.,
Detroit, Michigan.

Complete new line of noodles and stick macaroni and s[illegible]tti

Schulze Baking Co.,
Kansas City

5-cent cup cakes. Kansas City market has broken wide open on 5-cent cakes.

National Candy Company,
St. Louis, Mo.

Suckers by machine

FB EBM

Cellophane
TRADE MARK

5100

Defendant's Exhibit No. 548

EXTRACT FROM "ANALYSIS OF PHYSICAL TEST DATA 'CELLOPHANE' AND COMPETITIVE VISCOSE SHEETING FOR 1936, 1937, and 1938"

SUBJECT:

ANALYSIS OF PHYSICAL TEST DATA ON "CELLOPHANE" AND COMPETITIVE VISCOSE SHEETING FOR 1936, 1937 AND 1938.

REFERENCE:

Sales Service Report, Experiment 8-13, June 23, 1938.

OBJECT:

The object of this analysis is to compare the physical characteristics of "Cellophane" with Sylvania production over the last three year period.

GENERAL:

Information for this analysis was obtained from the reports issued by the Buffalo Physical Testing Laboratory.

Detail data on these physical tests are in the Sales Service files and are shown in summary form on the attached table and charts.

The summary data have been computed on a percentage basis; i.e., taking the average data for du Pont film as 100, the average for Sylvania being shown as poorer or better than du Pont, expressed as percentage.

In this analysis it should be recognized that results of one period are not directly comparable with those of another period. For example, a test may show that Sylvania film is 80% as good as du Pont in one period and 50% as good in another. This may mean that the average for du Pont for the two periods remained the same and Sylvania production actually became weaker or it might mean that the average for Sylvania remained the same for the two periods and that du Pont stock became better, resulting in a lower percentage ratio for Sylvania during the second period.

It is recognized that both du Pont and Sylvania make seasonal softener adjustments and since samples of competitive film were received during the summer and winter, data on all stocks have been combined to give one average figure used in the percentage ratio calculations.

Following the discussion on Sylvania and du Pont films, a review is included on other viscose sheetings, British C.I.L., La "Cellophane" and Kalle.

DISCUSSION OF RESULTS

A. 300 PT Sylvania vs. "Cellophane"

	% Rating		
	1936	1937	1938
Softener	103	101	98
Moisture	115	124	116

In softener content, Sylvania averages about the same as "Cellophane" over the three-year period.

Relative to moisture, competition is putting from 15 to 25% more moisture in the film than du Pont.

	% Rating		
	1936	1937	1938
Thickness	103	102	97
Area Factor	94	97	99

On Area Factor, data show a trend toward slightly greater coverage on Sylvania production; during 1938 competition had about the same Area Factor as du Pont, which averaged approximately 21,750 square inches per pound.

	1936	% Rating	1938
Elongation - T.D.	89	75	90
Elongation - M.D.	92	99	99

2. Lower area factor of Sylvania and C.I.L.
3. Poorer tumbling and gluing on Sylvania #450 PT.
4. Very good heat seal on Sylvania 450 MST.
5. Poor heat seal on #450 MSYT "Cellophane".

GENERAL SUMMARY

A. #300 PT "Cellophane" vs. Sylvania

Moisture Content

For the last three years, Sylvania has averaged from 15% to 25% more moisture than du Pont film.

Area Factor

Sylvania shows gradual increase in coverage from 1936 on, being about equal to "Cellophane" in 1938, which averaged 21,750 square inches per pound.

Tumbling

In comparison with "Cellophane", Sylvania shows a trend toward poorer performance. Data show no great difference in tumbling time for Sylvania production over the three-year period, but average data on "Cellophane" show increased tumbling.

Tearing and Impact

Sylvania indicates trend toward poorer comparative performance since 1936.

Sticking and Gluing

By our laboratory tests, Sylvania production has been superior to "Cellophane" for the last three years in sticking resistance.

In glue receptivity, competition was very much better than "Cellophane" in 1936 and 1937, but during 1938, with the development of the "triple S" sizing formula, "Cellophane" showed

superior average gluing over Sylvania film.

Permanent Shrinkage and Maximum Deformation

During 1938 competitive film shows no superiority over PT "Cellophane".

B. #300-MT "Cellophane" vs. Sylvania.

Moisture

Paralleling data on PT film, the moisture content of Sylvania film has averaged approximately 20% higher than MT "Cellophane" for the last two years.

Area Factor

The coverage of competitive MT film has remained the same as du Pont for the last three years.

Permanent Shrinkage and Maximum Deformation.

No significant change in shrinkage for the last two years. In deformation, a downward trend is indicated for competition.

Cigar Seal

During 1936 and 1937, competition was better than "Cellophane"; however, during 1938 with the plant scale production of a new cigar formula (No. 86), "Cellophane" shows a marked superiority over Sylvania film.

I.P.V. and % Coating Thickness

In comparison with "Cellophane" competitive film during the past three years shows protection factor of approximately two-thirds that of "Cellophane".

It is also significant that the average quantity of coating on competitive film was about two-thirds the du Pont standard for 1938 and three-quarters for the two years previous. Individual samples having a good I.P.V. were found to have about 3

1362

the same quantity of coating as "Cellophane".

C. #300-M3T "Cellophane" vs. Sylvania

Moisture

Same as for PT and MT - about 20% more than "Cellophane".

Area Factor

Practically the same as "Cellophane" for the last three years.

Elongation

Tendency toward downward trend in transverse elongation of competitive film with a substantial increase in machine direction.

Tumbling

For the last two years, Sylvania bakery film appears to be approximately one-half as durable as MSYT "Cellophane".

I.P.V. - % Coating - Heat Seal

Sylvania about one-half as moistureproof as MSYT "Cellophane", and has about four-fifths of the amount of coating normally put on "Cellophane".

In heat seal strength, competition showed marked improvement in 1937 over 1936 performance. During 1938 average comparative performance was poorer than for 1937.

D. #450-PT and MST - Sylvania vs. "Cellophane".

1. Higher moisture in Sylvania film.
2. Lower coverage on competition.
3. Poorer tumbling and gluing on competitive PT.
4. Very good heat seal on Sylvania MST.
5. Poor heat seal on #450-MSYT "Cellophane".

E. Miscellaneous Sylvania Films

#300-P.E.-1

Claimed to be heat-sealing but plain film. Some samples

were uncoated and others were coated.

#300 - D.H.S.

This type of film is claimed to be similar to LST "Cellophane". Heat seal and P.V. data compare favorably with our LST.

#300-LAC Tango

Showed very good I.P.V. and anchorage which might be attributed to the large amount of coating on the sample (17# of the du Pont standard).

#300-BU Red

Very good I.P.V. - 16.

#300 - FF and FFBU

Most outstanding of these films was the presence of Plytex as a softening medium. These samples were received during the first four months of this year.

#300 ACMT

Claimed superiority over "Cellophane" as cigar box overwrap. Physical tests reveal no outstanding characteristics which might account for superior performance.

#300-Single Coated

Same as MSDT "Cellophane" (coated on one side only).

F. Foreign Viscose Films vs. "Cellophane"

1. Higher moisture content than "Cellophane".
2. Higher elongation of British and C.I.L. films.
3. All foreign films, except British, are poorer in tumbling resistance than "Cellophane".

By _____
H. D. Harrington,
Sales Service Section.

APPROVED _____
A. F. Kendler, Agr.,
Sales Service Section.

Defendant's Exhibit No. 549

B. M. M.

January 23, 1939.

MR. O.F. BENN:

MR. J.E. HATT:

I have read your "Trend of 'Cellophane' Sales - First Ten Months 1938", and I consider it one of the most excellent reports I have seen. I would be glad if you would so inform Ladd.

There are a few things that have occurred to me in connection with it:

First, our losses to Sylvania have been largely confined to the big accounts, particularly American Tobacco and General Baking. This perhaps is to some extent to be expected although obviously not to be taken sitting down. I gather that a number of these large accounts have been sold on the idea of a secondary source of supply, which is a hard argument to combat. On the other hand, it would seem to me to work both ways, and perhaps if you have not already done so we could apply the same arguments against Sylvania's 100% customers such as American Chicle, etc. etc.

Another fact which stands out in this report is that our indirect sales compared with 1937 have gone up whereas our direct sales have gone down. Is there any specific reason why our competitive situation is better in the converters' group than it is in the direct field?

In general I think the report shows clearly that we do the development work and then competition comes along and takes a nick in the big ones. The assumption, undoubtedly correct, is that he does this by and large by price cutting.

As Ladd says on Page 3, if we had maintained our position against Sylvania we should have sold about 1,000,000 pounds more last year. Percentagewise, this is small, but never-

M-166

theless a lot of pounds. If competition continues to cut prices on seconds I would think the time might come when we would have to consider seriously what we were going to do about it.

Just one more question: On Page 25 I notice that the direct sales to the stationery industry have increased very materially. I was under the impression that this was going down, being lost to acetate.

LAY-ML

FILE COPY

M-156

Defendant's Exhibit No. 532

4322

CC: W. J. HARTE
E. C. LAKE

October 10, 1940

TO: E. M. WALLACE

FROM: C. F. BROWN

Subject: CONTINENTAL BAKING COMPANY - CUMCO PRESS

We have been advised that Cumco Press recently quoted 57¢ a pound on printed bread wrappers to Continental as against Shellmar's price of 59¢. They obtained an order of 500 pounds which has been run as a test but have received no stock order, evidently due to Shellmar meeting the price.

We are told that the Continental plant manager at Chicago has exerted influence on the New York Headquarters' purchasing office in favor of Cumco. For that reason it would be well to go to work on him and also have Shellmar do the same thing. Certainly ourselves and Shellmar have something to sell in the way of added quality of film from the standpoint of machine operation and seal, plus quality printing which should make our film worth more than a competitive product.

CFB MAM

M802

M802

Defendant's Exhibit No. 553

cc: [redacted]

E. I. DU PONT DE NEMOURS & COMPANY

RAYON DEPARTMENT
TECHNICAL DIVISION

Wilmington, Del.
January 24, 1941

Dr. G. H. Ehrat, D.
"Cellophane" Research Section
Rayon Technical Division
Buffalo

I quote below a paragraph from the "Cellophane" Division report to Mr. Barnes for December:

"We have been advised by General Foods that they will place their business with Sylvania in 1941. If such is the case this will mean a loss of about 400,000 lbs. versus 1940. Their total requirements will be in the neighborhood of 800,000 lbs."

I understand that General Foods have been taking ethylene-glycol M.S.T. film as well as M.A.T. Up until recently I believe General Foods considered Du Pont film superior to Sylvania. Recent tests on their part have led them to believe that Sylvania is the equal of Du Pont although they admit that it is not appreciably superior.

The fact that General Foods feel that our film once was superior and is now equal indicates to me that we have lost ground in their estimation. While the Sales department may be able to get this business back, it should be our endeavor to give them film of superior quality with which to work, and I would like you to look over your various problems and see which of them may have a bearing on this particular subject. I am sure that Mr. Brown will be glad to give you any possible assistance in this work.

M. du Pont Lee
MANAGER

MduPL:LB
tf

M1436

Defendant's Exhibit No. 556

[~~COPY OF TELETYPED TEXTUAL MATERIAL~~]

GX
No. 4335-P

CONFIDENTIAL

CC: T. L. HINES - J. E. HATT
R. L. RICHARDS
W. J. HARTE
E. C. LAKE

May 11, 1942

TO: W. C. LOCK
C. B. ESTABROOK
V. C. CLARK
E. M. WALLACE
M. H. WHEAT

FROM: C. F. BROWN

Subject: COMPETITION

Our major competitor, during the first quarter, has made at our expense the largest gain yet recorded in percentage of total sales of transparent moistureproof film.

Also his sales in the first quarter actually exceeded his sales in the fourth quarter of last year, whereas ours decreased by a substantial percentage.

Part of this is due to the fact that we were more seriously affected by L-20, but this is only a minor part.

We know of no substantial new business or new customers developed by the competitor, so the answer must be he has museled into our accounts to a far greater extent than we have realized.

During the period our customers were on allocation, in spite of the fact he was running far behind in deliveries to his own trade, he was evidently able to ship a substantial volume of business into our accounts who had purchased up to allocation with us and, capitalizing on this, undoubtedly booked ahead substantial first quarter shipments.

Doubtless he is trading on this service now in order to hold the business he has taken and capitalizing on this "vindication" of his "two sources" solicitation.

Needless to say, we must go after these situations and correct them at once. Your sales books show the accounts where our sales have decreased. As is usually the case, the volume of competitive business has unquestionably been under-estimated, and often, unfortunately, is not discovered until after the fact.

We are looking to you to start at once a competitive investigation and selling drive with every worth-while account showing decreased sales, no matter whether we think it is 100% du Pont or not. Have your men inspect stockrooms first and ask questions after.

This can and should be done in connection with the cessation and decrease report in the forecast issued with Bulletin No. 27-T.

C310-2-F

(continued over)

It is up to us to cure this situation quickly -- and we are relying on you to do your part.

If you analyze the situation or the remedy any differently, please give us the benefit of your thinking.

CFB MdM

C310 G

Defendant's Exhibit No. 557

COPY

28

June 29, 1942

TO: J. E. HATT

FROM: C. F. BROWN

Subject: MR. YARKES' LETTER OF JUNE 2, 1942

Information covering the points raised is given below:

1. WRIGLEY. There is no competition. Decrease in direct sales is due entirely to change to printed films. Decrease in total business is due to previous heavy buying. First quarter purchases are practically equal to corresponding period in 1941. (See attached statement). There will be a loss due to recent restriction of use on candy coated "P.K." - 2,000 lbs. per month.

2. BAKED GOODS. -- competitive situation.

A. & P. Competition is getting a larger portion of the business based on recent decision by Bofinger. It started at 85-15 in our favor and is now stated to be 66-2/3 - 33-1/3/ However, our business is up 131,000 for first four months (nearly 20%), so possibly the transition is not as large as estimated. Incidentally, we have a chance to get part of this back - their candy plant - due to trouble with competitive film.

KROGER - It is true we have lost some volume here to competition, but have already regained some and believe our previous position will be restored before long. We still have the majority of the business.

PURITY - Lost one plant for two months our of 29 we serve, but sales there are up 5%.

JERSEY FARM - Competitive loss due to shipment of pliolite coated film in error. Outside labels would not adhere. Is being regained.

OMAR - Competitive loss due to desire for second source during tight period. Working actively to regain.

NATIONAL TEA - Has been two-source account for some years, sales off but doubt if due to competitive inroads.

3. MEAT - Direct sales are up. Daniels has had most of the printed business with the large packers for several years. This is a problem which we have not solved.

4. MACARONI - Our entire loss is due to decreases with four accounts -

C238-68

4. Macaroni (continued)

F. L. Klein	- business regained.
I. J. Grass	- discontinued soup mix unit, no competition.
Kentucky Macaroni	- labor trouble, no competition.
A. Palazzolo	- business regained.

5. CONVERTERS. These accounts were affected in proportion to their business with industries affected by L-20. Some converters, such as U.S. Envelope, lost up to 75% of their business. Those whose chief business was with the food industries, like Shellmar, Dobeckmun and Milprint, were affected to a relatively minor degree.

Mr. Yerkes perhaps was referring to April figures when he made the statement we had lost "very large amounts of business in the candy, baked goods and cracker field and have gained only slightly in the unclassified foods field."

The figures on direct business to these industries for the first four months are --

Candy	- 4.4%
Baked Goods	- 5.6%
Crackers	+16.6%
Unclassified Foods	+3.5%

6. PAPER JOBBERS. As a part of our program to reduce the sales force we discontinued last fall the two men who were assigned to solicit the paper jobbers and transferred the accounts to the territorial men. Quite possibly we lost some effectiveness by this move but not to the extent indicated by the loss. The decrease was due principally to two causes - first, loss of textile and laundry accounts through L-20 (one large jobber lost 75%) and, second, enforcement at that time of our policy not to permit these jobbers to handle case lot business (as accommodation, no profit). This resulted in transfer of a number of case lot accounts from certain jobbers to us.

7. COMPETITION. A careful study of all important accounts was made as soon as the competitor's first quarter license payment was made. Although unquestionably some business was lost, and probably somewhat more than under normal times due to the period of film shortage, such losses are not a principal reason of the decline in our business - which was mainly due to two causes, overbuying in the fall and customers' restrictions on materials and distribution.

The competitive gain, we feel confident, was due mainly to deliberate booking for the first quarter in advance and delayed shipment of orders booked beyond plant capacity. Also we have plenty of evidence that many shipments were made

C238-09

7. Competition (concluded)

that were not ordered, duplications of shipments indicating a "standing order" plan had been promoted.

There is evidence that this deliberate loading of customers is proving a boomerang and should be reflected in his business during the balance of the year.

CFB MGM
enclosure

Case 616

BRIGGS

	1st Q. 1941	2nd Q. 1941	3rd Q. 1941	4th Q. 1941	1st Q. 1942
Direct Sales	89,362	157,737	88,621	88,441	30,696
Shellmar	23,000	140,800	228,200	185,007	30,000
Forbes	14,974	48,919	146,314	109,048	59,318
	127,336	347,456	463,135	347,496	120,014

Defendant's Exhibit No. 558

DU PONT

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE

"CELLOPHANE" DIVISION
MANUFACTURERS OF CELLULOSE FILM

To: ~~J. L. [illegible]~~ - J. E. HATT

C. F. BROWN

Subject: COMPETITIVE SERVICE POLICY

Reports from our district managers (attached) indicate a rather confused situation with respect to the competitor's service. Some general conclusions, however, can be drawn with a fair degree of certainty:

1. His service ability is no better than ours -- probably about the same.

2. No uniform plan has been followed in servicing trade, which has resulted in a less satisfactory condition as compared to our trade. There is some indication of recent attempt to set up some sort of program.

3. He is apt to favor large accounts at the expense of small accounts.

4. He is not favoring the tobacco trade -- in fact there is considerable evidence that he is not treating it as well as the baking industry, due probably to his comparatively small stake in the former.

5. On the other hand, he does not seem to have an edge on us in servicing the baking trade.

6. He continues to solicit many of our large accounts -- usually in terms of small quantities to build good will for the future.

[illegible]

C. F. BROWN

C238-G-20

[illegible]

Cellophane Interim Trade Report - TRADE ANALYSIS COPY

D. C. 2

M801

Customer: Swift and Co.
St. and No.: Union Stock Yards
City - State: Chicago, Ill.

Salesman: H. C. Broems
Date: 5-15-44 Date Last Report: 5-3-44
Industry: Meat
Class: 1-12

First Call ☐
Affiliation
Agreement Expires W R☐

DU PONT CELLOPHANE SUPPLIER	PUR. THIS QTR.	MANUFACTURER	BUYS THRU	COMPETITIVE MATERIALS P.T., M.T., GA. ETC.	1st QTR. PUR.*	2nd QTR. PUR.*	3rd QTR. PUR.*	4th QTR. PUR.*
DU PONT	8,000	Syl.		PT	10 M	10 M		
Traver Newmsha Milprint)	50,000	"	Danisco	PT	40 M	30 M		

RETURN TO "CELLOPHANE" TRADE ANALYSIS

* Give estimates thru this calender quarter. Revise previous estimates if necessary.

NEW BUSINESS

1. Persons Interviewed and Titles.
2. Accomplishments—(new items, supplier, type of material, annual potential); or action taken by customer.
3. Report of Call—Show items worked on and/or competitive work and results.
4. Action Needed—by (a) District Office, (b) Home Office.

E. A. Moss, V.P. Chg. Purchasing and By-Product Sales
J. H. Clark, P.A.
H. Schumaker, Mdsing. Dept.

Note: this report detailed and in narrative style only because it involves an important issue with an important account.

As covered in our report of May 3rd, request has been made on us by Swift's Merchandising Dept. to assist them in the preparation of a slide film devoted to the self-service distribution of Table Ready meats. The film will be produced by Jam Handy in Detroit.

Considering the background and competitive nature of the account, rather than offer this cooperation promiscuously it was handled in such a manner as to have it made thru the Purchasing Dept. and also to secure a definite acknowledgment from this group that this type of service has a monetary value, is valued and wanted by Swift.

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ESTABLISHED BUSINESS

5. Competitive Information.
6. Sales Status—Explain reason for any important change in customer's purchases.
7. Success Stories.
8. Inventory—in terms of weeks' supply.
9. Service Work.
10. Mailing List Changes (if any).

This procedure was felt desirable and used as a "test case" so to speak, for looking to the future we must have some positive assurance that efforts expended are not for the benefit of the competitor.

Therefore, at the time the request was originally made we asked Schumaker of the Merchandising Dept. to clear it thru Purchasing. Contact was also made on Clark who promised to check the details and advise us further.

In the meantime, Schumaker was maneuvered into position to make another request (this time in writing) again asking our assistance in preparing the above mentioned film. Contact was made on Clark today to review the request and secure a definite expression from him as to whether this cooperation was worthwhile to Swift and worthy of business.

Fortunately the plan worked out as we had hoped. Clark thought the entire subject of sufficient importance to introduce us to Mr. E. A. Moss, V. P. in charge of purchasing and by-product sales, who parti-

OVER

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Defendant's Exhibit No. 559

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dipated in the entire discussion.

This provided us with an excellent opportunity to outline specific cooperation we are able to give Swift, not only on the request of the moment, but we also gave them enough information on the work we have and are doing on self-service fresh meats and frozen meat to let them know we had a large investment in experience which would be profitable to them. It also gave us the opportunity to review the entire competitive situation.

We were very frank in discussing our position along the lines that over a period of years we have been providing Swift groups with valuable assistance but during the past 2 years or more we have enjoyed but a very small percentage of either their direct or converted business, and providing that there is not too wide a differential between the competitor's or competitor convertor's prices, we are forced to conclude that either Swift did not place any value on our services or think them worthwhile or else the Purchasing Dept. was not fully informed on the work we had done.

Therefore, considering the important trends underway in the meat field and our active participation in them, our attitude is that before undertaking such cooperation we wanted positive assurance that this assistance is recognized and will result in business for us.

Both Mr. Moss and Mr. Clark were emphatic in their statements that there is no antipathy in their organization toward Du Pont. What may have existed years ago has been entirely dissipated. Mr. Moss ~~made~~ was very frank, however, in stating in a highly competitive and low margin field such as theirs price would continue to be an important factor in shaping buying policies.

He also stated, and I believe it is not only significant to us but to the entire Du Pont Co., that there is a "missing link" in the relations between Swift and Du Pont. He observed that considering Swift is the largest in their field with probably the largest food research laboratories in the country, and that we are the leaders in our field, there should be an exchange of new developments which would unquestionably benefit both companies.

Several weeks ago we had a request from Clark to provide the names of executives in our company. We learned today this information was wanted by Moss, who plans to contact Wilmington regarding the market for glue in the chemical industry. Suggestions for capitalizing on this opening are covered in a separate memo by Bob Smith.

Mr. Moss then asked Clark to review the reasons why our competitor has been favored in recent years and these facts were developed:

On printed cellophane, after consulting recent billings, Clark provided us with the following comparison in writing:

3 color "Premium" bacon wrapper (12 x 8½")
$2.42 per M - - Daniels
3 color "Premium" bacon wrapper (12 x 8½")
$2.71 per M - - Traver

He claimed before the war these differentials were still wider.

On unprinted business and this represents a very small part of their usage, the competitor has been favored due to split shipments, which is an extremely important item to Swift.

We were very frank in admitting we couldn't overlook the importance of these factors, but in light of changing conditions we would like to review them from time to time, to which they agreed.

However, we emphasized we are looking to future important new developments where conditions will be somewhat different than in the past.

The discussion was concluded with the following statement by Mr. Moss and Clark:

1. They recognized and wanted the benefit of our services.
2. They want us to assist in the preparation of the Table Ready Meat slide film.
3. They made a request in writing for our film recommendation and assistance in laboratory work going on on frozen meats.
4. Mr. Moss suggested, and Clark concurred,

See [illegible]

M&M

Cellophane Interim Trade Report - TRADE ANALYSIS COPY

Customer SWIFT & CO. PAGE 2 Salesman

St and No. Date Date Last Report

City - State Industry First Call ☐

Class Affiliation

Agreement Expires W☐ R☐

DU PONT CELLOPHANE SUPPLIER	PUR. THIS QTR.	COMPETITIVE MATERIALS MANUFACTURER	SUPS THRU	P.T., M.T., CA, ETC.	1st QTR. PUR.*	2nd QTR. PUR.*	3rd QTR. PUR.*	4th QTR. PUR.*
DU PONT			RETURN TO CELLOPHANE TRADE ANALYSIS					

* Give estimates thru this calendar quarter. Revise previous estimates if necessary.

NEW BUSINESS

1. Persons Interviewed and Titles.
2. Accomplishments—(new items, supplier, type of material, annual potential); or action taken by customer.
3. Report of Call—Show items worked on and/or competitive work and results.
4. Action Needed—by (a) District Office, (b) Home Office.

that we are free to contact any of their Departments without going thru the Purchasing Dept.; but to keep this group thoroughly posted on what we are doing, it was agreed to cover our work in writing, which will be to our advantage.

5. Providing prices are not out of line, they prefer Du Pont as their source of supply.

Therefore, in view of these statements, arrangements were made for our Mr. Shaffer and Mr. Schumaker to get together to work out the details on the film. This will consist essentially of making up packages for the display cases.

On frozen meats, in a separate letter, Bob Smith has suggested bringing Don Drew into the picture. It will provide an excellent opportunity to get into the background of Swift's work on this development.

M801

ESTABLISHED BUSINESS

5. Competitive Information.
6. Sales Status—Explain reason for any important change in customer's purchases.
7. Success Stories.
8. Inventory—in terms of weeks' supply.
9. Service Work.
10. Mailing List Changes (if any).

5/23/44-71,9 o.B.

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Defendant's Exhibit No. 5304

~~[COPY OF ILLEGIBLE TESTUAL MATERIAL]~~

DEFENDANT'S EXHIBIT NO. 5304 A

cc: W. J. Harte
H. C. Broems

GENERAL SALES OFFICE FILE COPY

November 1, 1944

TO: M. T. CALLENDER, M. M. CLEAVER, W. A. H. DEMME, H. C. EASTMOND, P. A. HARBISON, R. C. MYERS

FROM: R. R. SMITH

SUBJECT: COMPETITION

Reports have been circulating that our competitor, Sylvania, has a system of allocation which classifies customers as A, B, C, and D.

The A customers get all the material that they require. B's allocated a percentage; C's a shipment now and then and D's, although previous small Sylvania users, practically eliminated.

I would like you to keep your ear to the ground for comments by the trade on this because if that is actually true (and we believe it is) there is an unparalleled opportunity to do some strong competitive work.

For example - do you know of any customer that does not think he would be entitled to an A rating - get all the material he wants?

Perhaps there may be something in the phrase after all "divide and conquer"!

RRS:s

C238-I4

Defendant's Exhibit No. 562

COMPETITION - OCTOBER 1946

RETURN TO
CELLOPHANE
TRADE ANALYSIS

BOSTON

Goodyear: We have been informed by Strazzulla that his use of rubber bags for spinach was not entirely satisfactory, as he claimed the rubber bags had an odor.

M. Longo & Sons, Providence, used about 25,000 bags, and they claim the use was successful and that their customers liked the rubber bag for spinach better than Cellophane because of the feel. We believe, however, this information is inconclusive, because no actual test, comparative tests, or experiments were run. Longo has been unable to get promise of delivery on any more rubber bags.

875

Sylvania: These people are continuing to offer PT film to accounts where we have had to cut them down materially. W. F. Schrafft & Sons, and Assembled Products Corporation of Connecticut are two that they are supplying a much greater proportion of pre-war purchases in PT than we are, and they have also made overtures to W. E. Wright & Sons at West Warren indicating that they could supply them enough PT to take care of their production. Wright has not accepted this offer.

Monsanto: This concern continues to push a plastic tray for tomatoes and fresh produce, the idea being merely to substitute the plastic tray for cardboard and overwrap in Cellophane.

Connecticut Celery Company, Hartford, plans to use these next season on tomatoes, and Farmer Brown, Inc., Hartford plant, expects to introduce tossed salad in this tray next season in connection with the Pioneer Fruit & Produce Company who will pack tomatoes.

NEW YORK

Viscose: Sylvania continues on a plan of distribution developed during the war. They are making every effort to get as many big accounts on their books as possible. They offered 25% less in November than in October to Sunshine Biscuits and I. Lewis Cigar Company while trying to break in with National Biscuit Company and Ontario Biscuit Company.

During the present trucking strike Sylvania gained an advantage. They brought in two pool cars. Many of our customers couldn't understand why we couldn't give the same service.

Mr. Dunn had a conversation with the Sylvania representative in New Jersey, a Mr. Wade. He stated that before the war they had four salesmen working out of the New York office. At present they have six and plan to add more. He went on to say they have definite plans for expansion but the high cost of construction prohibited such action for the present.

M 814

NEW YORK (Cont'd)

Rubber: Loblaw Groceterias, Buffalo, placed an order for rubber film with Goodyear and will test it on fresh produce and cheese cuts. The rubber people are active with A & P at Columbus on fresh produce. They are working hard to gain a foot-hold in this industry.

Cellulose Acetate: The acetate people are making an intensive drive on the produce people and are gaining some interest.

Heat sealing acetate is coming up again. Eastman is allegedly experimently with it. We haven't had any samples since the original quantity sent you some time ago.

PHILADELPHIA

Extreme pressure for additional film from many of our two-source supply accounts indicates Sylvania has suddenly fallen down. Their current shipments are delayed - some accounts will not receive their September allotments until November. It is reported that their November program has been cut 25%.

876

Milprint is rumoring that Shellmar is now 50% competitive. Their representatives are using this story in the hope of strengthening their position with us to secure additional poundage.

Sylvania representatives are requesting letters from the trade advising the amount of film being supplied by duPont. These letters are solicited on the pretext that it will help them secure additional film from their headquarters. Such letters in the hands of our competitors could cause considerable difficulty if they are shown to the trade, playing one account against another.

Ohio Fruit Products Company of Cleveland is now working with Milprint to replace bulk seal Cellophane liners now being used for frozen fruits with Pliofilm pouches.

Frozen Food Locker Company of Columbus has ordered 3,000 Pliofilm bags (18 x 26) for turkeys and two rolls of non- converted Pliofilm 18" wide from Dobeckmun.

D. Tope of Hartville, Ohio, is still utilizing the Pen Mac Nye machine for the fabrication of Pliofilm bags for radishes. They are now packing approximately 200 packages per day for A & P. Columbus.

11814

PHILADELPHIA (Cont'd)

The Package BW-5 ordered by this company has been delivered to Goodyear's Akron plant for conversion to Pliofilm. It was only through working with Goodyear that Tope was able to secure quicker delivery. Goodyear apparently was able to influence the Package Machinery Company. Tope claims he is not sold on Pliofilm and will use whatever material he desires when the machine is finally set up in his plant.

Traver sold 5,000 perlon bags to Morrison & McCluan for frozen turkeys.

ATLANTA

Goodyear has offered 15 to 20 thousand pounds of rubber to Dickman for packaging fresh vegetables. Celanese Corp. appears to be out of this picture due to the inability to seal their film with heat. Traver has been trying to get into the picture through the use of Pearlon bags but Dickman has shown no interest due to poor visibility.

877

Sylvania has told the fresh vegetable growers that they will soon have a special representative to cover this field. We understand that they have offered to supply Phyfers his requirements. Also they have indicated their desire to participate in the Florida Committee Packaging Fresh Produce program.

The University of Miami is planning a test program to explore freezing tropical fruits and vegetables from South Florida. Cellophane bag-in-box units will be included, along with foil, rubber, etc.

CHICAGO

Sylvania: Reports from the field indicate Sylvania made rather sharp reduction in their November allocations - approx. 25%.

Kroger has advised us they were reduced from 28,000# to 21,000# in November or 25%. Other large accounts, such as Purity Bakeries, Sawyer Biscuit Co. and Schulze Burch report similar reductions in the competitior's November poundage.

In one territory, at least, Sylvania is offering a generous supply of moistureproof seconds sheets. Their representative's explanation is that their equipment is in bad shape, causing and abnormal amount of reject material.

Sylvania recently sold 4000# of film designated as "J" stock (rejects) in rolls at 10% off to one of our candy accounts. The customer advised it was used on their Rose wrapping machine without any difficulty.

M814

HICAGO (Cont'd)

Sylvania (Cont'd): Crystal Tube Co., a competitive converter recently solicited business from Reed Candy Co. on printed roll stock in one color at 72¢ per pound. This compares with our converter's price of 91¢ per pound.

Goodyear: This competitor is continuing experimental work at the National Cigar Corp., Frankfort, Ind., in endeavor to adapt their film and machines to cigar wrapping. Latest reports indicate they have eliminated the problem of tight end seals and are endeavoring to get adoption in this account.

Sample cigar in rubber film has been forwarded to Wilmington.

Western Products Co. is reported to have developed a tobacco pouch employing a pliofilm lamination. They also claim to have equipment for loading this pouch by machine.

878

Firestone: Investigation has been made on reports that Firestone is sampling their "Velon" vinyl film to the meat packers. Small samples of transparent and calendered stock were shown to us by Swift. However, they have received no details regarding characteristics or prices.

KANSAS CITY

Sylvania continues to take pot shots at our largest pieces of business and they are now supplying film on a regular basis to three of our most important accounts - Interstate Bakeries, Campbell Taggart Associated Bakeries and P. F. Peterson, of Omaha. We realize that to do this they have to take film away from somebody else but obviously they are willing to trade less desirable business in the hope they will maintain their position with important accounts when material is more plentiful.

Concerns still report trouble using Sylvania film on Simplex Bag making machines and we should have no problem ousting them from such accounts when we can take care of the business.

Goodyear continues to make a play in the field of fresh produce and eviscerated poultry.

SAN FRANCISCO

Sylvania (B.M. & T.) -- It would appear they have more film to offer and are somewhat more active with our important accounts though they do not seem to be getting far.

Reynolds Metal -- They do not seem to be broadening their base very much. As far as we can tell -- Atturbury at Yuba City, remains their only frozen food account and they are using it on only two items.

11814

2-74

SAN FRANCISCO (Cont'd)

Aluminum Corporation of America -- Have appointed Western Wax Company as converters for West Coast and will shoot at the frozen food units, and possibly potato chips.

Goodyear -- Nothing outstanding. They recently tried a test on a Model K Machine for kiss wrapping at L. R. Stone's. It failed - breaking on the stretch.

Mission Pak of Los Angeles has ordered 5,000 lbs. of rubber film to direct wrap citrus fruits for holiday baskets -- supposedly because of the shortage of Cellophane.

879

Acetate -- The Celanese boys are very active primarily in the testing and experimental stages of fresh produce.

There are two current setbacks, however. One, the avocado crop is only 50% of last year. The other, North Ontario Dried Fruit, who originally used acetate on dates claim that they dry out in this product and prefer #300 LST film for the purpose.

M814

Defendant's Exhibit No. 563

COMPETITION REPORT -- FEBRUARY 1947

BOSTON

Sylvenic evidently has film. They have offered Joseph F. Sullivan, Ayer, Mass., (apples) his entire requirements for this year which he feels will be 70,000 pounds. They have been working hard on both the Worcester Baking Company and Commonwealth Bakeries of Worcester. There is no doubt that they are shooting at or getting ready to shoot at our important pieces of business.

Acetate envelopes, (Celanese) are being shipped to Manchester Hosiery Mills by Milprint. This is mainly because Milprint does not have enough Cellophane.

NEW YORK

Viscose: Sylvania's policy on distribution is still variable. They increased Yorkville's allotments for February and March while at Sunshine Biscuit, Long Island City plant, the December allocation hasn't been received.

Sylvania has definitely improved their position at P. Lorillard.

So far we have not had heard any remarks about the competitor's new price list.

Rubber: Goodyear have increased their sales force in New York by the appointment of a Mr. Magnuson.

Large rubber bags seem to be ok for oranges in the Columbus A & P set up. Price is $3.00 to $4.00 less than #450 MSAT bags.

Rubber is being tested on large cuts in A & P Detroit meat program in an effort to eliminate breakage.

Acetate: Ideal Fruit & Produce, Syracuse is using acetate bags on spinach. They prefer Cellophane because of less breakage (the bags split) and lower prices.

PHILADELPHIA

Viscose: Sylvania's status is as confusing as ever, but there are indications of an overall improvement. In some areas and with some accounts, the back-log of orders is being cleaned up and a return to monthly shipments on a more current basis is evident.

Sylvania has offered the American Stores Company approximately 7,000 pounds per month. During this month, they accepted fairly sizeable orders from Southern Biscuit Company in Richmond and Nolde Brothers of Norfolk, both new accounts for Sylvania.

Contrary to this bright picture, in other areas, 8 week deliveries are being quoted as best possible service. And, there are many accounts that are temporarily on the "forgotten" list.

M824

PHILADELPHIA (Cont'd)

Non-Viscose: As mentioned under product, Celanese is attempting to work into the American Stores Company prepackaged produce development

Opaque Paper: Rapinwax is offering (to the baking industry) a new lacquered paper at $.21 per pound with a claimed yield approaching that of Cellophane. This new paper is supposed to offer better protection than wax and to reduce the wax cleaning problem. One of our customers evaluated a sample and reported the latter claim to be false, i.e., the paper does build up a wax deposit.

Foil: Due to Cellophane shortage, Allen & Smith of Richmond has adopted printed foil bags for 5¢ salted peanuts. In addition to lack of visibility, another disadvantage is its sealing properties. Heat plus pressure apparently do not effect a satisfactory seal. Hence, the result is merely a fold-over seal. Reynolds is also working with this concern on a printed foil candy bar wrap for use on their Crimp-Pak machines.

We have heard that Reynolds is obtaining a Transwrap for experimental purposes in an endeavor to convert this type machine to run foil. It is reported they are shooting for the peanut business, particularly Planters.

Rubber: The Package machine converted by Goodyear to handle Pliofilm is now set up at D. Tope in Hartville, Ohio. This machine is wrapping trays of endive and turnips in rubber at a speed of 36 units per minute. Difficulty is being encountered with static which is causing poor folds and many rewraps.

Goodyear's conversion work on this machine amounted to the addition of three sets of brush type static eliminators and mechanical pressing type plates to replace conventional side sealing plates. Air jets may be added to further reduce static difficulty.

Tope is paying $.93 per pound for Pliofilm.

We are planning a comparative test run with Cellophane to determine if machine converted for rubber will handle our product.

ATLANTA

We hear many complaints on our competitor's quality.

Sylvania had trouble with brittle stock in Florida during the recent cold weather.

They are shorting some of their large accounts, but on the other hand they are shooting at new business in Florida.

11804

ATLANTA (Cont'd)

Sylvania shipped I. Lewis, Selma, Alabama, off sizes width rolls which they cannot use.

Goodyear has put a man in New Orleans (Joe Brewster). His territory will cover from Mobile through to Texas and Arkansas.

Goodyear has been concentrating its entire efforts in Florida on the direct wrap of citrus fruit recently. This may be because of the inability to convert the Hayssen and Package machines to run rubber.

Celanese Corp. is now talking about having a heat sealing acetate film in the near future. At present they are promoting a solvent seal - with little success.

CHICAGO

Sylvania: Reports indicate that Sylvania is servicing most of their accounts in March at the same level as February. Several accounts have been increased rather substantially; Purity Bakeries from 30,000# to 40,000# and Swift from an average of 40,000# a month last year (printed and unprinted) to a total of 80,000# in March.

They are not advising customers in specific terms as to when they might expect increase in allotments.

Sylvania's northwest representative has advised one account that they are doubling their present capacity. No mention was made as to how this additional volume will be obtained.

Pliofilm: We cannot detect much new activity on the part of Goodyear. Their efforts out here seem to be confined largely to meat, cheese, nuts and smoked fish.

Polyethylene: As reported above, this product is being used by Swift on bulk shortening. A smilar application is employed by Marwyn Dairies on frozen plastic cream.

Sheeting is furnished by Visking and Traver does the converting.

KANSAS CITY

The competitor still gets in our hair particularly with important pieces of business. Their representatives are covering the territory more frequently and they seem to have a propensity for sensing critical situations. No question about it - they are creating a two-source of supply complex with many of our important accounts.

1824

KANSAS CITY (Cont'd)

The situation is especially acute in Denver where Dixon & Company, Sylvania agents, are right on the ground and quick to take advantage of an opportunity to supply emergency requirements and help customers in a tight situation.

Walter Clark has run into a little resistance in his territory because of the 1% discount offered by Sylvania on cut-to-size sheet orders. Prior to January 1 their price on cut-to-size sheets was .0232 per thousand square inches which, with 1% cash discount, brought the price down to .023 same as ours. Now their cut-to-size price is the same as ours and they still give the 1% so they have this slight advantage. The 1% discount doesn't hurt us on roll stock because of the difference in yield, but with cut-to-size sheets it is a matter of dollars and cents.

SAN FRANCISCO

Viscose: We understand Blake, Moffitt & Towne have collected samples of all Du Pont films; printed; unprinted; and bags; sending them to Sylvania plant at Fredericksburg.

J. E. Moriarity has been named General Manager of Moist-R-Proof Container Company. Once again they will see if they can make a go of it. Though their credit position is reportedly still bad.

Dixon Paper Company who handle Sylvania material in Utah and vicinity, we think, is doing the superior selling job at that point.

Sylvania seems to have slipped in deliveries to their larger accounts recently, which may reflect an oversold condition. This to the extent of about 30%.

Rubber: Goodyear are working quite hard with their #75 film in the prepackaging of vegetables -- but are not getting very far.

Alaska Salmon Filet Company in Oakland use about 4,000 lbs. per year of this film believing it holds herring and salmon better than Cellophane.

Grocery Packing Company have eliminated their previous use of rubber because of difficulties of making into bags.

Tru Value Foods who used about 2,000 lbs. rubber film rejected a further supply of the same amount because they did not like the film's cloudy appearance and other difficulties encountered in making into bags. They stated there were very bad static conditions even with the static eliminator.

11824

SAN FRANCISCO (Cont'd)

Rubber (cont'd): In the recent laboratory tests by Roeding Fig Company, rubber film showed up best but was considered hard to handle because of the narrow sealing range. Also appearance was less attractive than that of Cellophane. (Our own film was only slightly better than Sylvania -- but we will have a new test under way in a week or two with some of our improved moistureproof film.)

Foil: Their outstanding success is with Atterbury Frozen Foods. However, Atterbury explained that the excessive heat required to seal at high speed is a negative -- 65 per minute is the best they can get on their F.A. machine.

California Fruit Chimes Company are wrapping their Kisses in foil on Model "K" - approximately 2,000 lbs. per year.

Sunny Sally has adopted a one inch foil band for Celery -- also about 2,000 lbs. a year through Shellmar -- purely dress up.

Meredith Fish Company who purchased about 500,000 foil bags for Salmon Halibut Steaks, and Shad Roe, believes these items must be protected against light.

John T. Troll Company has experienced so much trouble running foil on their F.A. machine they have decided to discontinue it on their 5¢ carton and will adopt #300 MST-52 overwrap. We believe this was the best foil account here.

Acetate: We have bowed to Celanese. They continue to sell to such accounts as Sunny Sally and the like for Spinach, Salad Mix, etc. That by far is their largest use and confined to a comparatively few accounts.

Incidentally, Sam J. Regas, who formerly used Celanese acetate #150 weight bags supplied by Shellmar have decided against their further use because of 45% breakage. And L.A.T. will hereafter be used.

1024

Defendant's Exhibit No. 564

CC: H. C. Broems.
F. W. Tranfield.
B. H. Heim.
J. B. Phillips, Jr.

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

RAYON DEPARTMENT
CELLOPHANE DIVISION

New York, N. Y.
April 13, 1948.

TO: B. H. Heim.

FOR: W. J. Harte,
Wilmington.

FROM: J. B. Phillips, Jr.

Subject: TETLEY TEA CO., INC.,
483 Greenwich St.,
New York, N. Y.

Reference: My T.R. of 4/12/48.

Upon calling at this account, I found Mr. E. C. Parker, President, and Mr. A. Dimes, Production Manager, very alarmed over the Cellophane supply situation. The reason for alarm was a statement made to them last week by "the District Manager" of the Sylvania Division of American Viscose Co. They did not tell me his name.

The statement follows as closely as I can quote:

> "Inasmuch as the du Pont Company is being sued by the U.S. Government on the basis they are monopolistic, it is quite likely they will have to sell one of their plants. If this happens they might not be able to supply you. They were recently unable to take care of General Baking Co. and we had to take care of that business. We thought you might like to start buying from us before we run out of film to allocate, rather than be left out in the cold."

JBP:ES

M1444

Defendant's Exhibit No. 365

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

RAYON DEPARTMENT
CELLOPHANE DIVISION

CC: B. H. Heim.

New York, N. Y.
July 15, 1948.

TO: W. J. Harte,
Wilmington.

FROM: H. C. Broems.

Subject: COMPETITION

Reports are coming through that Sylvania is making a strong bid in the cake business by claiming their #300 PMS film is comparable to our #300 MST-52 Cellophane, but costs the baker less by giving them a yield of 21,000 sq. in. per pound instead of ours of 19,500.

Apparently, their work is causing some of our bakers to give consideration to this film, particularly in such accounts as General Baking Company, Drake Bakeries and Modern Grade A.

I talked to Whitney Hunter about this and he stated that in tests made several months ago with Sylvania's 300 PMS-2, the film is no better than our 300 MST-51 for cake, showed a yield of only 20,500 and did not have the moisture protective qualities of our Cellophane. Of course, this test was made on one batch of film and whether the performance would carry out through their production is not known.

Where this problem comes up, we are suggesting to the bakers that they wrap samples in both our 300 MST-51, 300 MST-52 and Sylvania's recommended film, and observe the products to determine whether there is any noticeable difference. We are also suggesting that they make production runs to actually verify the yield of our film vs. the competitor's.

I thought you would be interested in this information, as Sylvania is making quite a point of the additional yield since we recently increased our price to bring it almost up to Sylvania's published price.

M1445

HCB:ES

Defendant's Exhibit No. 566

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

RAYON DEPARTMENT
CELLOPHANE DIVISION - Boston -

FILE-ANS.
AUG 2 6
M. ALLEN

August 11, 1948

TO: MANLEY CALLENDER

FOR: ~~W. G. HUNTER~~

FROM: L. W. ROBERTS

SUBJECT: COMPETITIVE MEAT FILM

In a conference today with the executives of First National Stores, Somerville, Massachusetts, and Marty Meyer who is in charge of their meat experimental work, it was disclosed that Sylvania had presented First National Stores with 1,000 sheets of their new meat film designated PMBO. First National has tested this film and reports that it is equal in performance to our MSAT-80.

At our request, Marty Meyer gave us a small quantity of this thousand sheet sample which is being sent to you under separate cover.

LWR:RH

M1447

Defendant's Exhibit No. 567

GENERAL SALES OFFICE FILE COPY

June 1 1956

TO: W. J. HARTE

FROM: V. C. CLARK

SUBJECT: COMPETITION
Ref: Atlanta Warehouse
Your letter of May 27th

In the early days of competition the Sylvania Industrial Corp. were distributing in the southeast through jobbers, principally the Atlanta Paper Company and Paradise & Rich.

Subsequently they opened a warehouse in Atlanta in which they cut sheets and carried roll stock in various sizes to meet the demand of the trade in that area.

It is my understanding that, with the opening of the warehouse, a new corporation was formed, namely, the Sylvania Industrial Corp. of Georgia, which enabled them to set policies of their own. Their price policies, etc. developed an extremely competitive condition. In fact, that area probably became the most competitive area in the country, because of the many and various practices used.

Some of the practices followed were: —

A. Shipments within a few hours.
B. Daily shipments, if desired by the customer, in whatever quantities required.
C. The total shipments during the month governed the price of the shipment.
D. The total shipments during the month were billed at the end of the month and a ten day discount allowed.
E. Classified their shipments so that lower transportation rates applied.
F. Allowance of cash discounts beyond the ten day period.
G. Sales on a delivered basis.
H. Sales of thirds in sheet stock with discount ranging as high as 38% on No. 300 weight.
I. Sales of seconds in roll stock with discount as high as 58%.
J. An extremely liberal credit policy.
K. On the slightest provocation, customers were permitted to return material for credit or replacement.
L. Less than case lot quantities at case lot prices.
M. Lavish entertainment and gratuities.

In fact, almost any means was used that might give a slight price differential in addition to their better service position, in order to attempt to take business from us with those accounts in which we were strongly entrenched.

M1408

GENERAL SALES OFFICE FILE COPY

Since the Government first placed demands upon the cellophane industry for cape film, etc., thus developing a demand far exceeding the supply, most of the above practices have been eliminated.

In fact, some of the practices have been reversed in that for many months they have been sellin only 1st class stock in sheet form to the majority of their trade, who at one time were 3rd class users.

In fact, today there is little about which we could complain.

Their distribution policy has been very inconsistent in that they have continually, throughout the emergency, attempted to take business from 100% duPont users at the expense of their regular customers.

They still maintain a 1% ten day discount on all purchases. It is my understanding, from our Technical Section, that the yield of their product is about equal to our yield, which if continued post war would give them a 1% advantage in price.

Even in view of all of these extremely highly competitive practices, through merchandising, mechanical, and other assistance, plus the superior quality of our film, we have been making consistent headway in the southeast for the last 6 to 8 years.

M1408

VCC jb

Defendant's Exhibit No. 568

E. I. DU PONT DE NEMOURS & COMPANY

CELLOPHANE DIVISION

T L Hines

July 5, 1946

TO: ~~T. L. HINES~~

FROM: C. F. BROWN

Recent tests have indicated that Sylvania's yield in square inches per pound is practically the same as ours. This results in a price advantage of 1% due to cash discount.

CFB:JL

C 310 2905

Defendant's Exhibit No. 569

445

E. I. DU PONT DE NEMOURS & COMPANY
WILMINGTON, DELAWARE

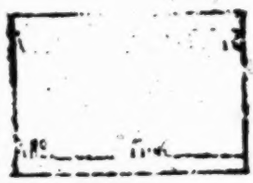
CELLOPHANE DIVISION

cc: J. E. Dean - A. Kunsman
C. F. Brown
W. J. Harte
R. C. Lake - E. A. Wight
L. B. Steele
[illegible] Hunter
G. K. Andrews - New York

BR
Circulate

June 3, 1949

H. G. BROEMS, NEW YORK
M. T. CALLENDER, BOSTON
V. G. CLARK, PHILADELPHIA
R. J. CROWLEY, CHICAGO
W. C. LOCK, SAN FRANCISCO
R. E. SIDWELL, ATLANTA
M. H. WHEAT, KANSAS CITY



SYLVANIA PRICE DECREASE

By letter dated May 31st, the Sylvania Division of American Viscose Company has announced a price decrease of one cent per pound on all moistureproof films effective May 26th, 1949.

This new schedule parallels our list prices and removes the price advantage we have held (varying from one cent to five cents) for several years.

Due to Sylvania's 1% cash discount, they now hold that advantage on moistureproof, amounting to one half cent per pound. Published area factors are identical for all films.

This is exactly the same situation with respect to price differential on moistureproof films that existed between November 1st, 1941 and February 1st, 1948.

We were successful during that period in holding our position and we have every confidence that we can do so again today, based on our superior quality, service and personnel.

However, you should be extremely vigilant to detect instances where business is lost -- and report any such specifically by name and amount in your weekly letter.

R. R. SMITH

RRS:JL

M 1014

Defendant's Exhibit No. 570

R-12005

DUPONT
ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON 98, DELAWARE

RAYON DEPARTMENT
CELLOPHANE DIVISION

cc - J. A. Dean - A. Kunsman
C.F.Brown
C.A.Haley
W.G.Hunter
L.E.Steele

August 9, 1949

W. J. HARTE
E. C. LAKE - E. A. WIGHT

CHANGE IN TERMS OF SALE

With the institution of a 1% cash discount our terms of sale are now competitive with Sylvania.

Needless to say, while we believe our quality is definitely superior it is our policy, nevertheless, to be fully competitive in every practicable way. All obstacles to strong competitive selling on the basis of quality and service have now been removed and although it is difficult to determine accurately how much business may have been lost because of inequality in terms, we do expect a definite improvement in our competitive position.

Unquestionably our announcement to the trade will reopen in many quarters the subject of price reduction. Salesmen should be instructed to avoid price discussion where possible. Where they cannot avoid it, their simple position should be that our policy on price has not changed and that policy is to reduce prices when the costs of material and labor permit. There has been no change in this situation since our last announcement to the trade.

On the other hand, Sylvania's advantage by reason of discount has been brought to the attention of you and your salesmen by important factors in our trade. In those cases our new terms should be brought to the attention of your customers on the basis that we have always believed we have offered our trade quality advantages that reflect themselves in efficiency and cost savings and we want to see that those advantages are maintained by equalising in every other way.

Now that we have the advantage again, let's make the most of it.

R. H. SMITH

RHS:JL

M 580

DUPONT CELLOPHANE

TRADE REPORT

(Branch Office or Salesman's Copy)

Defendant's Exhibit No. 571

Salesman Dickson Date 8-31-31 No. 229

Firm Collins Baking Co. Bus. Baker Class 1-4

Stock No. 516 Bell St. City Montgomery State Ala.

Controlled by E.S.Collins and brother

Final Decision by E.S.C " " " Contacted on this call? yes

Buyer Atlanta, Office Contacted on this call?

Type of Call* — Productive X Service

Transparent Sheeting Used						Bo't From	Estimated Consumption-lbs. This Quarter	Next Quarter
300	X	P.T.		Emb.				
350		P.C.		Sheets	X	Misc.	Sylvania	500	?
600		M.T.	X	Rolls				
H.W.		M.C.		Ists	X			

If using competitive material, state reasons why. Split shipment policy.

Items wrapped in Cellophane: Variety of baked goods in 7 bakeries.

a. Sales tools used on this call:	b. Agreement account? no
Samples Pack. Dev. Trav. Display	c. Did you secure order? no If not, when?
Photo Album Market Survey	d. Approx. date next call? schedule
Ad. Book X Post Campaign X	e. If service call, state nature below:

Mr.Collins sent a questionaire to the 7 bakeries concerning Nymphrap - 2 plant Mgrs. expressed a preference for Cellophane since that time another plant has had serious sticking trouble with Nymphrap. Collins flatly stated he would use Cellophane if we could give him split shipments. Explained that our prices were based on our ability to pack economically.

Date of last Prod. Call.	Rec'd at Branch Office	Date Typed	Copies for
6-8-31	9-3-31	9-3	

CREATIVE WORK DONE

1. Men interviewed and titles.
2. Products on which Cellophane could be used.
3. New products under development.
4. New items in Cellophane released since last call.
5. Result of suggestions on last call.
6. Creative suggestions to extend use of Cellophane made on this call.
7. What were the customer's reactions to your suggestions?
8. What is your plan for next call?
9. What assistance can organization give you?

If we had to use 7 packing cases on the order the additional cost would have to go on the cost of materia[illegible]

7. A. All plants managers will meet this
the Cellophane problem will be brought up for
discussion.

8. Continue contacts with plant mgrs. sell them
individually on the advantages of genuine Celâophane.
Show them our merchandising service is worth more
to them than a few cents on split shipment.

9. Please have Freydberg Bros. send samples and prices
Cellophane Ribbon. Also have Minn. Mining and Mfr.
send samples and prices on scotch tape.

M1260

Defendant's Exhibit No. 572

DUPONT CELLOPHANE

TRADE REPORT

(Main Office Copy)

Salesman: Fowle and Estabrook | Date: 11-13-31 | No. 906

Firm: Consumer's Cake Bakery | Bus.: Baker | Class: 1-12

St. & No.: 1428 Chestnut St. | City: K.C. | State: Mo.

Controlled by: General Baking Co. N.Y.C.

Final Decision by: Same and Smith | Contacted on this call? Yes

Buyer: Same | Contacted on this call?

Type of Call* — Productive X | Service

Transparent Sheeting Used				Bo't From	Estimated Consumption-lbs. This Quarter	Next Quarter
300 X	P.T. X	Emb.	2nds			
450	P.C.	Sheets	X Misc.	Sylvani	5,000	5,000
600	M.T. X	Rolls				
H.W.	M.C.	1sts X				

If using competitive material, state reasons why: Ordering placed at N.Y.C. reasons unknown here.

Items wrapped in Cellophane: None here.

Yes

a. Sales tools used on this call:

Samples X | Pack. Dev. | Trav. Display

Photo Album X | Market Survey

Ad. Book | Post Campaign

b. Agreement account? No

c. Did you secure order? If not, when?

d. Approx. date next call? Sched.

e. If service call, state nature below:

Discussed generally use of Nymphrap here. Mr. Smith of this plant said all orders call for Cellophane but orders since Aug. have been filled with Nymphrap. Showed us invoiced and I noticed they were allowing split shipments to take the case lot price which may be the reason for this loss of business. Also noticed that all invoices are marked to the attention of Mr. Steiner, see below

Date of Call.	Rec'd in Main Office	Date Typed	Copies for
10-20-31	11-13-31	1-17-31	

CREATIVE WORK DONE

1. Men interviewed and titles.
2. Products on which Cellophane could be used.
3. New products under development.
4. New items in Cellophane released since last call.
5. Result of suggestions on last call.
6. Creative suggestions to extend use of Cellophane made on this call.
7. What were the customer's reactions to your suggestions?
8. What is your plan for next call?
9. What assistance can organization give you?

22 .42nd St. N.Y.C. and he may be the man who is placing this business with Sylvania. Please do not involve Mr. Smith, K.C. Mgr. in any N.Y. contacts.

Defendant's Exhibit No. 573

DUPONT CELLOPHANE

TRADE REPORT

(Main Office Copy)

Salesman Cloudley Date 6/ 3/3 No. 57

Firm Nunnally Company Bus. Candy Class 1-12

St. & No. 86 Edgewood Avenue City Atlanta State Ga.

Controlled by

Final Decision by A. S. Hopkins, V. P. Contacted on this call? no

Buyer R. S. McDonell, P.A. Contacted on this call? yes

Type of Call* — Productive Service X

Transparent Sheeting Used				Bo't From	Estimated Consumption-lbs. This Quarter	Next Quarter
300 X	P.T. X	Emb.	Ends			
450	P.C. X	Sheets X	Misc.	Sylvania	1000	1000
600	M.T. X	Rolls				
H.W.	M.C.	Ists X				

If using competitive material, state reasons why. Split shipments

Items wrapped in Cellophane:

boats, boxes, bars, misc.

a. Sales tools used on this call:

Samples Pack. Dev. Trav. Display

Photo Album Market Survey

Ad. Book Post Campaign

b. Agreement account? no

c. Did you secure order? no If not, when?

d. Approx. date next call? Sched.

e. If service call, state nature below:

No progress made this trip save a clearer understanding of the workings of Sylvania. The split shipments work as follows- place an order for a case of Sylphrap and take out as much or as little as you want. If you haven't taken out a case by the end of the month they call you up and ask if you want the rest. If not you pay per quantity schedule, if yes you are billed at

Date of last Prod. Call	Attest at Branch Office	Date Typed	Copies for
6/23/32	7/1/32 GB	7/2/32	

CREATIVE WORK DO

Defendant's Exhibit No. 574

DUPONT CELLOPHANE

TRADE REPORT

(District Office File Copy)

Salesman Swartwout Date 3-30-33 No. 376

Firm Swift & Co. Bus. Meat Class 1-12

St. & No. Stock Yards City Ft. Worth State Texas

Controlled by: Chicago

Final Decision by (Title): W Contacted on this call? no

Buyer Mr. Conner, P.A. Contacted on this call? yes

Others Contacted this call (Titles)

Type of Call—Productive Service X

Sources of Supply	Est. Cons.-lbs. This Quarter	If using competitive material, state type and reasons
Shellmar	2,000	300 P.T. TURN C.O.
Sylvania	1,000	P.T.S. SALES RECORD

Items wrapped in Cellophane: Sliced Bacon, butts, picnics, dried beef, sausage.

Other products on which Cellophane could be used: (Note new products in work) Other meat items?

a. Sales tools used on this call:

Samples Trav. Disp. Photos Pack. Dev.

Cons. Ads. Trade Ads. Mkt. Sur.

b. Agreement secured?

c. Did you secure order?

d. Service and general remarks—below

Above claims he has orders to now requisition through his Chicago office but will still buy from Pollock because of local delivery, split shipments and claims he cannot tell his second class stock from first class stock. Above ap reciates our cooperation but claims this does not offset the advantages of dealing with local man and split shipments. Also claims their seconds as good as firsts and claims ours are really seconds. Writer cannot seem to book this business although buyer very receptive to writer.

Date of last Prod. Call	Rec'd at District Office	Date Tried	Copies for
2-22-33	4-3-33	4-4-33	

CREATIVE WORK DONE

1. New items on market since last call distribution, potential
2. Result of suggestions made on last call
3. Creative suggestions to extend use of Cellophane made on this call and customer's reactions?
4. What is your plan for next call?
5. What assistance can organization give you?

(5144-1105)

M1263

Defendant's Exhibit No. 575

TRADE REPORT

(District Office File Copy)

DUPONT CELLOPHANE

Salesman Dickson Date 9-8-33 No. 658

Firm Brock Candy Co. Bus. Candy Class 2-6

St. & No. 1113 Chestnut St. City Chattanooga State Tenn.

Controlled by:

Final Decision by (Title) W.E. Brock, Jr., (V.P.) Contacted on this call? yes

Buyer A.K. Jordan, (P.A.) Contacted on this call? yes

Others Contacted this call (Title)

Type of Call—Productive X Service

Sources of Supply	Est. Cons.-lbs. This Quarter	If using competitive material, state type and reasons
Sylvania	900	They claim we cannot give the service they require.

Items wrapped in Cellophane: Bars and Sticks of candy.

Other products on which Cellophane could be used: (Note new products to work) Various candy.

a. Sales tools used on this call:

Samples Trav. Disp. Photos Pack. Dev.

Cons. Ads. Trade Ads. Mkt. Sur.

b. Agreement account? no

c. Did you secure order? no

d. Service and general remarks—below

(a) Tried to get order on promise of overnight service from Old Hickory. Brock says where they buy is ~~entirely up to Jordan. Jordan claims it is a matter~~ of service. Says they buy in small lots of P.T., M.T., and P.C., and buy as they need it. He said in his past experience he has found we could not handle their ~~business on this basis. This is not the real reason,~~ however. Although Jordan won't admit it Brock has admitted they get split shipments and they are allowed (See Below)

Date of last Prod. Call	Rec'd at District Office	Date Typed	Order No.
8-4-33	9-11-33	9-11-33	

CREATIVE WORK DONE

1. New items on market since last call—distribution, potential.
2. Result of suggestions made on last call.
3. Creative suggestions to extend use of Cellophane made on this call and customer's reactions?
4. What is your plan for next call?
5. What assistance can organization give you?

to combine M.T., P.T., and P.C., into case lots.

111264

Defendant's Exhibit No. 576

DUPONT CELLOPHANE

TRADE REPORT

(Director of Sales Copy) 9/30/32

Salesman M. R. Loftus Date 9/30/32 No. [illegible]

Firm Alles & Fisher, Inc. Bus. Cigars Class [illegible]

St. & No. 549 Shawmut Ave. City Boston Date [illegible]

Controlled by: Above

Final Decision by H. [illegible], Pres. Contacted on this call? [illegible]

Buyer Same Contacted on this call?

Type of Call* — Productive Service X

Transparent Sheeting Used				Be't From	Estimated Consumption-lbs. This Quarter	Next Quarter
300 X	P.T.	Emb.	2nds	Sylvania	[illegible]	[illegible]
450	P.C.	Sheets	Misc.			
600	M.T.	Rolls X				
H.W.	M.C.	1sts				

If using competitive material, state reasons why. Better price; rebate check on on less than ten thousand dollars.

Items wrapped in Cellophane:

a. Sales tools used on this call:

Samples X Pack. Dev. Trav. Display

Photo Album Market Survey

Ad. Book Post Campaign

b. Agreement account?

c. Did you secure order? If not, when?

d. Approx. date next call?

e. If service call, state nature below:

Presented sample roll of S. S. T. which replaced roll of Sylvania M.T. stock which we secured and sent to New York office. This material will be used on a special type cigar which is sold through Connecticut. This particular cigar must be dry, the consumer prefers it so. The test could not be conducted today as the cigar in question was not in

Date of last Prod. Call	Rec'd at Branch Office	Date Typed	Copies for
9/21/32	10/3/32	10/3/32	

CREATIVE WORK DONE

1. Men interviewed and titles.
2. Products on which Cellophane could be used.
3. New products under development.
6. Creative suggestions to extend use of Cellophane made on this call.
7. What were the customer's reactions to your suggestions?

Defendant's Exhibit No. 577

SRC-1 REV. 10200-3-29-32

DUPONT CELLOPHANE
REG. U.S. PAT. OFF.

TRADE REPORT

(Temporary File Copy)

Salesman M. R. Loftus — Date 11/8/32 — No. 004

Firm Alles & Fisher, Inc. — Bus. Cigars — Class 1-12

St. & No. 549 Shawmut Ave. — City Boston — State Mass.

Controlled by:

Final Decision by M. Hanauer, Pres. — Contacted on this call? Yes

Buyer Ruby Grysmich — Contacted on this call? Yes

Type of Call* — Productive X — Service

Transparent Sheeting Used				Bo't From	Estimated Consumption-lbs. This Quarter	Estimated Consumption-lbs. Next Quarter
300 X	P.T.	Emb.	2nds	Sylvania	2000	2000
450	P.C.	Sheets	Misc.			
600	M.T. X	Rolls X				
H.W.	M.C.	1sts				

If using competitive material, state reasons why. Rebate on purchases which are less than 10M dollars.

Items wrapped in Cellophane:

a. Sales tools used on this call:

Samples X — Pack. Dev. — Trav. Display

Photo Album — Market Survey

Ad. Book — Post Campaign X

b. Agreement account? No

c. Did you secure order? — If not, when?

d. Approx. date next call? Schedule

e. If service call, state nature below:

Competitive situation unchanged. Will continue to use Sylvania because of agreement situation. Checked Grysmich on sample roll of S.S.T. we sent in for test on moist cigars. Test was made and cigars found to be in good condition at the end of four weeks. Cigars had dried out some, but not too much. Heat seal was comparable to Sylvania material. As produc- (over)

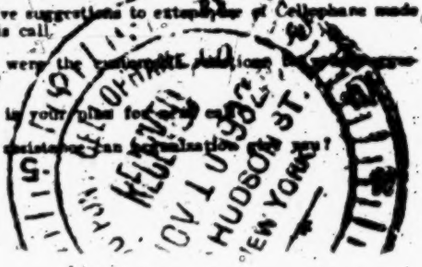
Date of Call	Received at Service	Date of Call	Copies for
9/30/31	11/8/32	11/8/32	

CREATIVE WORK DONE

1. Men interviewed and titles.
2. Products on which Cellophane could be used.
3. New products under development.
4. New items in Cellophane released since last call.
5. Result of suggestions on last call.
6. Creative suggestions to extend use of Cellophane made on this call.
7. What were the customer's reactions to your suggestions?
8. What is your plan for next call?
9. What assistance can organization give you?

L. M. Hanauer, Pres.

DUPONT CELLOPHANE RECEIVED NOV 10 1932 HUDSON ST. NEW YORK



• continued

tion on this cigar is small, they will not order in our material for this alone.

M1266

Defendant's Exhibit No. 578

DUPONT CELLOPHANE

TRADE REPORT

(Main Office Copy)

Salesman: M. J. Loftus & J. Jorgensen 9/23/32 No. 816

Firm: H. Tysiser Company Dep. Cigars Class 2-6

St. & No. 116 Merrimac St. City Boston State Mass.

Contracted by:

Final Decision by: F. E. Merrill, G.M. Contacted on this call? Yes

Buyer: Contacted on this call?

Type of Call — Productive X Service

Transparent Sheeting Used				Est. From	Estimated Consumption Sq. This Quarter	Estimated Consumption Sq. Next Quarter
500 X	P.T.	Sub.	Sale	Sylvania	1000	1000
400	P.C.	Sheets	Misc.			
600	M.T. X	Rolls X				
N.W.	M.G.	Lots				

If using competitive material, state reasons why: Cigars

Items wrapped in Cellophane: None

a. Sales tools used on this call:

Samples X Pack. Dev. Trav. Display

Photo Album Market Survey

Ad. Book X Post Cancelation X

b. Agreement accepted? No

c. Did you secure order? No If not, when?

d. Approx. date next call? Sched. or before

e. If service call, state nature below:

Mr. Jorgensen and the writer checked the sources of supply of the subject concern and ascertained that they are using Sylvania material exclusively due to the price situation. Their business has fallen to such an extent that it is impossible for them to purchase more than five thousand dollars to six thousand dollars in a year. The fact that the competitor is

Date of last Prod. Call	Rec'd at Branch Office	Date Typed	Copies for
7/26/32	9/26/32	9/27/32	

CREATIVE WORK DONE

1. Man interviewed and titles.
2. Products on which Cellophane could be used.
3. Creative suggestions to extend use of Cellophane made on this call.
4. What were the customer's reactions to your suggest

cerning Nymphrap - 2 plant Mgrs. expressed a preference for Cellophane since that time another plant has had serious sticking trouble with Nymphrap. Collins flatly stated he would use Cellophane if we could give him split shipments. Explained that our prices were based on our ability to pack economically.

Date of last Prod. Call.	Rec'd at Branch Office	Date Typed	Copies for
6-8-31	9-3-31	9-3	

CREATIVE WORK DONE

1. Men interviewed and titles.
2. Products on which Cellophane could be used.
3. New products under development.
4. New items in Cellophane released since last call.
5. Result of suggestions on last call.
6. Creative suggestions to extend use of Cellophane made on this call.
7. What were the customer's reactions to your suggestions?
8. What is your plan for next call?
9. What assistance can organization give you?

If we had to use 7 packing cases on the order the additional cost would have to go on the cost of materia. and th t we were fundamentally interested in getting our prices down as low as possible - he would eventually save some realy money by helping to build DuPonts' volume would result in lower prices.

1. E.S.Collins,V.P.

2.5 to 35¢ cakes.

3. New 5¢ item just coming out in all plants.

4. None.

5. Our continued pounding at their various plants is beginning to show results - Collins obviously wants to use Cellophane and it seems we've going to get their business back.

6.-A. Use of Cellophane on fruit cakes, tied with Cellophane ribbon.

B. Cellophane on their new 5¢ items, sealed with scotch tape. Thes use of tape would save them consierably in eliminating folds.

C. A fresh cake campaign similar to the Nymnally candy campaign.

-OVER-

M1260

[illegible]

of this plant said all orders call for Cellophane but orders since Aug. have been filled with Nymphrap showed us invoiced and I noticed they were allowing split shipments to take the case lot price which may be the reason for this loss of business. Also noticed that all invoices are marked to the attention of Mr. Steiner, see below

[illegible] Call.	[illegible]	[illegible]	Copies for

CREATIVE WORK DONE

1. Men interviewed and titles.
2. Products on which Cellophane could be used.
3. New products under development.
4. New items in Cellophane released since last call.
5. Result of suggestions on last call.
6. Creative suggestions to extend use of Cellophane made on this call.
7. What were the customer's reactions to your suggestions?
8. What is your plan for next call?
9. What assistance can organization give you?

28 [illegible] 42nd St. N.Y.C. and he may be the man who is placing this business with Sylvania. Please do not involve Mr. Smith, K.J. Mgr. in any N.Y. contacts. He is friendly to us and favors Cellophane.

1- Mr. Smith, [illegible]

2- Bread, cakes, cookies, rolls, donuts, sweet goods.

3- None

4- Fruit cake in Nymphrap just out

6- No interest on Cox's box or donuts.

6- (a) Presented large group of American Bak. Co. Southern Bak. Co. and Cinnamaster cake and coffee cake units to show trend in other markets, unique printed wraps for fresh cakes and new coffee cake possibilities. These developments presented to Smith because he is friendly to us and I believe he will keep on and help us get this business back from competition.
(b) Noticed fruit cake boxes, cardboard, on Smith's desk and recommended it be overwrapped in 300 P.M. pink, (cake wrapped in 300 Nymphrap)

7- (a) Well received.
(b) Impressed with possibilities, wired cost figures and recommendation to use and purchase Cellophane from Chicago immediately. Sent lengthy wire to N.Y.

8- Continue efforts to get this business back.

9- None.

M1261

a. Sales tools used on this call:	b. Agreement account? no
Samples Pack. Dev Trav. Display	c. Did you secure order? no If not, why?
Photo Album Market Survey	d. Approx. date next call? [illegible]
Ad. Book Post Campaign	e. If service call, state nature below:

No progress made this trip save a clearer understanding of the workings of Sylvania. The split shipment work as follows- place an order for a case of Sylphrap and take out as much or as little as you want. If you haven't taken out a case by the end of the next trip they call you up and ask if you want the rest. If not you pay per quantity schedule, if yes you are billed at

Date of Last Prod. Call	Filed at Branch Office	Given Typed	Copies for
6/23/52	7/1/52 GS	7/2/52	

CREATIVE WORK DONE

1. Men interviewed and titles.
2. Products on which Cellophane could be used.
3. New products under development.
4. New items in Cellophane released since last call.
5. Result of suggestions on last call.
6. Creative suggestions to extend use of Cellophane made on this call.
7. What were the customer's reactions to your suggestions?
8. What is your plan for next call?
9. What assistance can organization give you?

case prices. Invoices are then sent out. So it may be 30 days after the first lot is shipped until it is billed. McDonell feels this exceptional and Sylvania can only doing this for few referred accounts. Says we would not get business even if we had local supply. What do we do in a case like this? Just about used up printed stock and will now use Sylvania sheets. Tried to get case business out of this but claims will not order case quantities and keeping inventories as low as possible.

M1262

Defendant's Exhibit No. 5794

275

July 21, 1939

O. F. BENZ

C. F. BROWN

Subject: COMPETITION

V. C. Clark reports that there seems to be more chiseling going on at the present moment by our major competitor than ever before. He mentioned three or four accounts, 100% our customers, who report in confidence that the competitor had offered to sign them on agreement - paying discount based on $3,000, or if they do not qualify at the end of twelve months, they will extend the period.

CFB K

FILE COPY

Defendant's Exhibit No. 580

TRADE REPORT

(District Sales Manager's Copy)

Salesman MacDonald Date 9-14-31 No. 923

Firm Parkway Baking Co. Bus. Baker Class 2-d

St. & No. 1222 Ridge Ave. City Phila. State Pa.

Controlled by:

Final Decision by Leonard Conly, R.Conly Contacted on this call? yes

Buyer Leonard Conly Contacted on this call? "

Type of Call* — Productive Service

Transparent Sheeting Used				Bo't From	Estimated Consumption-Rs. This Quarter	Next Quarter
300	X P.T.	SST	mb. Inds X	Du Pont	600	900
450	P.C.	Sheets X	Misc.	Sylvania	350	"
600	M.T.	Rolls				
H.W.	M.C.	Lts X				

If using competitive material, state reasons why Sylvania MT seconds - account offered ashaving quality of firsts and priced as 2nds.

Items wrapped in Cellophane: cakes, doughnuts.

a. Sales tools used on this call:

Samples X Pack. Dev. X Trav. Display

Photo Album Market Survey

Ad. Book Post Campaign

b. Agreement account? no

c. Did you secure order yes If not, when?

d. Approx. date next call? Sch.

e. If service call, state nature below:

Developed cake dishes in Amber Cellophane - booked order for Amber. Developed fruit cake and cocoanut layer cake in MT Cellophane. Presented "Nabs" in Cellophane - illustrating before and after. Sales on doughnuts slowed down account hot weather but SST Cellophane has proven itself as the proper wrap. They ordered another case of SST. They would like to machine wrap their

Date of last Prod. Call.	Rec'd at Branch Office	Date Typed	
8-6-31	9-16-31	9-16-31	(See below)

CREATIVE WORK DONE

1. Men interviewed and titles.
2. Products on which Cellophane could be used.
3. New products under development.
4. New items in Cellophane released since last call.
5. Result of suggestions on last call.
6. Creative suggestions to extend use of Cellophane made on this call.
7. What were the customer's reactions to your suggestions?
8. What is your plan for next call?
9. What assistance can organization give you?

doughnuts but realize their A.M. and F. bread wrapping machine will not handle except if tray were used. Bought case of Sylvania seconds and claim tests showed it kept cakes satisfactorily. We warned them of risk in the cooler weather.

1. Leonard Conly, Secy. & V.P.
   Richard Conly, SP and Asst G.M.
2. cakes.

Items wrapped in Cellophane:

a. Sales tools used on this call:	b. Agreement account?
Samples X Pack. Dev. Trav. Display	c. Did you secure order? If not, why?
Photo Album Market Survey	d. Approx. date next call?
Ad. Book Post Campaign	e. If service call, state nature below:

Presented sample roll of S. S. T. which replaced roll of Sylvania N.T. stock which we secured and sent to New York office. This material will be used on a special type cigar which is sold through Connecticut. This particular cigar must be dry, the consumer prefers it so. The test could not be continued today as the cigar in question was not in

Date of last Prod. Call	Rec'd at Branch Office	Date Typed	Copies for
9/21/38	10/3/38	10/3/38	

CREATIVE WORK DONE

1. Men interviewed and titles.
2. Products on which Cellophane could be used.
3. New products under development.
4. New items in Cellophane released since last call.
5. Result of suggestions on last call.
6. Creative suggestions to extend use of Cellophane made on this call.
7. What were the customer's reactions to your suggestions?
8. What is your plan for next call?
9. What assistance can organization give you?

"g" continued

production. We will phone next week so that we can be present when cigars are wrapped.
Mr. R. Grysmich will buy our material if we can rebate them on less than ten thousand dollars.

M1767

a. Sales tools used on this call:	b. Agreement account? No
Samples X Pack. Dev. Trav. Display	c. Did you secure order? If not, when?
Photo Album Market Survey	d. Approx. date next call? Schedule
Ad. Book Post Campaign X	e. If service call, state nature below:

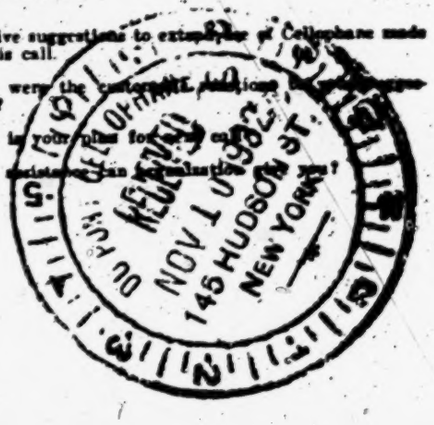
Competitive situation unchanged. Will continue to use Sylvania because of agreement situation. Checked Grysmich on sample roll of S.S.T. we sent in for test on moist cigars. Test was made and cigars found to be in good condition at the end of four weeks. Cigars had dried out some, but not too much. Heat seal was comparable to Sylvania material. As produc- (over)

Date of Call	Received at Branch Office	Date Copied	Copies for
9/30/31	11/9/32	11/9/32	

CREATIVE WORK DONE

1. Men interviewed and titles.
2. Products on which Cellophane could be used.
3. New products under development.
4. New items in Cellophane released since last call.
5. Result of suggestions on last call.
6. Creative suggestions to extend use of Cellophane made on this call.
7. What were the customers' questions to [illegible] suggestions?
8. What is your plan for next call?
9. What assistance can organization give you?

DU PONT CELLOPHANE CO. RECEIVED NOV 10 1932 145 HUDSON ST. NEW YORK



1. M. Hanauer, Pres.
   A. Grysmich, Treas.
2. Cigars
3. None
4. None
5. Tests made with S.S.T. stock results satisfactorily but no order will be placed.

6. Covered 12 points with them; also advertising of Wrigley, stressing value of using duPont CELLOPHANE.

7. Price and rebate are main issue here. We can obtain business if we will meet Sylvania prices.

8. General presentation urging them to buy duPont CELLOPHANE.

9. None

(over)

Name wrapped in Cellophane: None

a. Sales tools used on this call:	b. Agreement account? No
Samples X Pack. Dev. Trav. Display	c. Did you secure order? No If not, when?
Photo Album Market Survey	d. Approx. date next call? Sched. or before
Ad. Book X Post Campaign X	e. If service call, state nature below:

Mr. Jorgensen and the writer checked the sources of supply of the subject concern and ascertained that they are using Sylvania material exclusively due to the price situation. Their business has fallen to such an extent that it is impossible for them to purchase more than five thousand dollars to six thousand dollars in a year. The fact that the competitor is

Date of last Prod. Call	Rec'd at Branch Office	Date Typed	Copies for
7/26/32	9/26/32	9/27/32	

CREATIVE WORK DONE

1. Men interviewed and titles.
2. Products on which Cellophane could be used.
3. New products under development.
4. New items in Cellophane released since last call.
5. Result of suggestions on last call.
6. Creative suggestions to extend use of Cellophane made on this call.
7. What were the customer's reactions to your suggestions?
8. What is your plan for next call?
9. What assistance can organization give you?

"e" continued

giving them a rebate on this amount of business makes it attractive to them. We presented our various points on advertising, consumer acceptance and of the large organizations who are using and featuring CELLOPHANE.

There is little to be done with this organization at this time because they were one of the first to adopt CELLOPHANE, and Mr. Merrill is thoroughly acquainted with the situation as it exists with General Cigars and various other large manufacturers. We shall continue to call upon him, endeavoring to sell our service to them, and the advisability of using dupont material.

M1268

Defendant's Exhibit No. 581

DUPONT CELLOPHANE

TRADE REPORT

(District Office File Copy)

Salesman: Cleaver | Date: 4-14-33 | No.: 362

Firm: Emery Industries, Inc. | Bus.: Candles | Class: 1-12

St. & No.: 4300 Carew Tower Bldg. | City: Cinn. | State: Ohio

Controlled by: Same

Final Decision by (Titles): Wm. Clark, S.M., & Exec. | Contacted on this call? Clark

Buyer: E.G. Hiberger | Contacted on this call? yes

Others Contacted this call (Titles): None

Type of Call—Productive | Service: X

Sources of Supply	Est. Cons.-lbs. This Quarter	If using competitive material, state type and reasons
Us	3,000	Sylphrap 300 P.T. sheets and rolls.
Sylvania	2,000	See below for full explanation.

Items wrapped in Cellophane: Candles.

Other products on which Cellophane could be used: (Note new products in work) None

a. Sales tools used on this call:
Samples Trav. Disp. Photos Pack. Dev.
Cons. Ads. Trade Ads. Mkt. Sur.

b. Agreement account? yes

c. Did you secure order? no

d. Service and general remarks—below

(d) a - Per W.J. Harte's letter 4-7, presented rebate check and statement of sales to Mr. Hiberger.
(b) Hiberger finally broke down and told me the whole story on just what Sylvania has offered them that will save them so many "thousands of dollars per year" in operations with transparent sheeting. It is that the competitor has agreed to give them a superior grade of seconds "much better than ordinary seconds" (meaning ours) and practically equal to firsts (again meaning (See Below)

Date of last Prod. Call	Rec'd at District Office	Date Typed
3-31-33	4-17-33	4-19-33

CREATIVE WORK DONE

1. New items on market since last call — distribution, potential.
2. Result of suggestions made on last call.
3. Creative suggestions to extend use of Cellophane made on this call and customer's reactions?
4. What is your plan for next call?
5. What assistance can organization give you?

DuPont) at the regular 25% discount. Also second quality roll stock at a "ridiculously low price" and guaranteeing that every shipment will be subject to return without question if it is not satisfactory to Emery. This is all 300 P.T. sheeting the only type they use. I immediately brought up the matter of grain direction and this seems to be a vunerable point. Apparently no arrangement has been made to guarantee long grain on all sheet stock. Which is what they invariably need in wrapping candles. I therefore arranged to send him

Defendant's Exhibit No. 582

R-12319

DUPONT

Cellophane TRADE MARK
TRADE REPORT
(Trade Analysis Copy)

SALES COR.	☐
PROM. SECT.	☐
SALES SERV.	☐
ADV. SECT.	☐
CONV. SECT.	☐
PROD. DEV.	☐
SERVICE SECT.	☐
PLANNING	☐

Salesman: M. M. Cleaver — Date: 10-17-40 — Type Call: C

Firm: Pinder Products Co. — Date last Call: 6-20-40 — Type Call: P — Date last Prod. Call: 6-20-40 — Class: 2-6

St. & No.: 541 N. Franklin St. — Bus.: Dried fruit

City & State: Chicago, Ill. — Controlled by: Same

Final Decision by (Titles): J. E. Gerbosi, V.P. and G.M. — Contacted this call? yes

Buyer: Same — Contacted this call?

Others Contacted this call (Titles): C. J. Hittel, Pres.

Sources of Supply	Est. Cons.-lbs. this Calendar Quarter	If using competitive material, state type and reasons
Syl.	2,500	Happy Cigar - HL George
Us	1,000	

Items in transp. sheeting: (specify which in competitive or converted film)

Dates

Other potential products:

Same

a. Sales aids used—specify below:

b. Latest success story—below:

c. Service and general remarks—below:

d. Mailing list changes—below:

e. Agreement expires? —

f. Did you secure order? none

c. Have been in here several times since beginning of date season, but unable to catch Joe Gerbosi in his office, so knew nothing until today of the current status here.

This has been a Catty account since its organization 2 seasons ago, all 1st class cut size M.S.C. Tango sheets; they have no machines or sheet cutters, and hand wrap their entire production.

A monkey wrench was thrown into the gears this season in the form of Syl. coming in with 2nds ("just as good") at 47% discount. The seconds were sampled,

CREATIVE ACTIVITY

1. New items on market since last call—supplier, distribution, annual potential.
2. Result of suggestions made on previous calls.
3. Creative effort: (a) Objective this call? (b) Specific suggestions made; including evidence from your retail store surveys. (c) Action promised by customer?
4. What is your plan for next call?
5. Action needed by: (a) District ... headquarters.

found to be O.K., and have been used ever since at the rate of about a case every 10 days.

I made it very clear that we have never recommended second class stock as a primary wrap on quality packages where smoothness and uniformity are essential to appearance and also that we never attempt to inter-

11-1 40	C "	J.C.Gerbosi, V.P. and G.M. Followed re samples our M.S.C.Tango 2nds in comparison with Syl.'s. Samples received, but has not yet had chance to try out in production. Will do so in few days; asked me to follow early next week.
11-5 40		J.E.Gerbosi. Followed re tests on M.S.C.Tango 2nds, and announced per new bulletin of resumption of regular 15% discount rather than special 47%. Not interested, in view of availability of 47% on competitive 2nds at present.

Date 11-25-40 Decrease Last Qtr. vs. Corr. Qtr. Competitive Sales—This Qtr. Syl. 3000

Remarks: Price. Competitor took away from Catty on basis of 47% discount M.S.C. 2nds. M1273

Defendant's Exhibit No. 583

REV. 10500-2-2-32

DUPONT CELLOPHANE

TRADE REPORT

(Sales Record Copy)

Sales Ser.	Service Soc.
Adv. Soc.	Tech. Soc.
Prom. Soc.	

Salesman H.I. Phillips Date 11-22-32 No. 551

Firm Chimes Brownes Inc. Bus. Bakers Class 2-6

St. & No. 122 Willis Ave. City New York State N.Y.

Controlled by:

Final Decision by Mr. J.E. Carr, owner Contacted on this call? yes

Buyer Contacted on this call?

Type of Call: — Productive X Service

Transparent Sheeting Used						Bo't From	Estimated Consumption-lbs. This Quarter	Next Quarter
300	X	P.T.	Emb.	Ends	X	DuPont	500	400
450		P.C.	Sheets	X	Misc.	Dennison	300	300
600		M.T.	X	Rolls		Sylvania	300	300
H.W.		M.C.		Lots				

If using competitive material, state reasons why. Special concessions

Items wrapped in Cellophane? 10¢ and 5¢ unit Chimes Brownes fig bar, Applesauce cake, fruit cake.

a. Sales-tools used on this call:			b. Agreement account?
Samples	Pack. Dev.	Trav. Display	c. Did you secure order? no If not, when?
Photo Album	Market Survey		d. Approx. date next call? Soh. or sooner
Ad. Book	Post Campaign "87,000"		e. If service call, state nature below:

Mr. Carr gave information today that Sylvania is delivering orders to his plant without charge. Due to price differences on seconds (DuPont .0273 - Sylvania .027 for example) and free delivery tendency seems to show that we will loose business here. Endeavored to have Mr. Carr give his decision of splitting business 50-50 today but

Date of last Prod. Call	Rec'd at Branch Office	Date Typed	Copies for
11-11-32	11-25-32	11-30-LC	

CREATIVE WORK DONE

1. Men interviewed and titles.
2. Products on which Cellophane could be used.
3. New products under development.
4. New items in Cellophane released since last call.
5. Result of suggestions on last call.
6. Creative suggestions to extend use of Cellophane made on this call.
7. What were the customer's reactions to your suggestions?
8. What is your plan for next call?
9. What assistance can organization give you?

he will withhold decision until later. Feels that he should place business where he can get best price and accomodations.

1. Mr. J.E. Carr, owner
2. Fudge Cake
3. one

O. F. BENZ

C. F. BROWN

Subject: COMPETITION

V. C. Clark reports that there seems to be more chiseling going on at the present moment by our major competitor than ever before. He mentioned three or four accounts, 100% our customers, who report in confidence that the competitor had offered to sign them on agreement - paying discount based on $3,000, or if they do not qualify at the end of twelve months, they will extend the period.

CFB K

FILE COPY

DuP-1-Cg-1

11-25-41

At-6182

R.W.	M.C.	Lets X			

If using competitive material, state reasons why Sylvania MT seconds - account offered asharing quality of firsts and priced as 2nds.

Items wrapped in Cellophane cakes, doughnuts.

a. Sales tools used on this call	b. Agreement account? no
Samples X Pa-K Dev X Tray Display	c. Did you secure order yes If not, when?
Photo Album Market Survey	d. Approx date next call Mch.
Ad Book Post Campaign	e. If service call, state nature below:

Developed cake dishes in Amber Cellophane - booked order for Amber. Developed fruit cake and cocoanut layer cake in MT Cellophane. Presented "Nabs" in Cellophane - illustrating before and after. Sales on doughnuts slowed down account hot weather but SST Cellophane has proven itself as the proper wrap. They ordered another case of SST. They would like to machine wrap their

Date of last Prod. Call	Rec'd at Branch Office	Date Typed	(See below)
8-5-31	9-16-31	9-16-31	

CREATIVE WORK DONE

1. Men interviewed and titles.
2. Products on which Cellophane could be used.
3. New products under development.
4. New items in Cellophane released since last call.
5. Result of suggestions on last call.
6. Creative suggestions to extend use of Cellophane made on this call.
7. What were the customer's reactions to your suggestions?
8. What is your plan for next call?
9. What assistance can organization give you?

doughnuts but realize their A.M. and F. bread wrapping machine will not handle except if tray were used. Bought case of Sylvania seconds and claim tests showed it kept cakes satisfactorily. We warned them of risk in the cooler weather.

1. Leonard Conly, Secy. & V.P.
   Richard Conly, SP and Asst G.M.
2. cakes.
3. none.
4. Cellophane sheet in top of die cut carton for coffee cakes.
5. See 4.
6. (A) 300 MT overwrap for fruit cake.
   (B) Extension of Cellophane to small unit and bread specialties.
7. Adopted Cellophane for fruit cake and cocoanut layer cake. Extending use of Cellophane gradually.
8. Follow up on previous suggestions and urge broadening field of 5 and 10¢ units and bread specialties and urge use of first class Cellophnae.
9. None.

Defendant's Exhibit No. 584

SEC-1 REV. 10000-5-1-33

DUPONT CELLOPHANE

TRADE REPORT

(District Office File Copy)

Salesman Stearns Date 5-22-33 No. 450

Firm Hygrade Food Prod. Co. Bus. Meats Class 1-12

St. & No. 2811 Michigan Ave. City Detroit State Mich.

Controlled by: Hygrade, N.Y.

Final Decision by (Titles) Above Contacted on this call? no

Buyer R. Wilcox, P.A. here Contacted on this call? yes

Others Contacted this call (Titles) None

Type of Call—Productive X Service

Sources of Supply	Est. Cons.-lbs. This Quarter	If using competitive material, state type and reasons
Us	1,500	
Sylvania	1,500	Using some 3rd. Class stock.
Shellmar	500	Reason, price.

Items wrapped in Cellophane: Bacon, Sausage, Cottage hams, Picnics, Dr. Beef, Chili, Franks, etc.

Other products on which Cellophane could be used: (Note new products in work) All Sausage and bologna and cooked meats, Hams, Bacon sides.

SERVICE CALLS - [illegible]

a. Sales tools used on this call:

Samples Trav. Disp. Photos Pack. Dev.

Cons. Ads. Trade Ads. Mkt. Sur.

b. Agreement account? no

c. Did you secure order? no soon.

d. Service and general remarks—below

We are losing poundage here due to use of Sylphrap 3rd. Our poundage has fallen off badly since first of year they've only used 1,547# as against 3,650# for last quarter. The loss is due to use of 3rds.

Date of last Prod. Call	Rec'd at District Office	Date Typed	Copies for
3-15-33	5-24-33	5-24-33	

CREATIVE WORK DONE

New items on market since last call—distribution, potential.

Result of suggestions made on last call.

1 - None.

2 - Last call service. No adoption on hams. Order placed

3. Creative suggestions to extend use of Cellophane made on this call and customer's reactions?

4. What is your plan for next call?

5. What assistance can organization give you?

Defendant's Exhibit No. 585

DU PONT

Cellophane
TRADE REPORT
(Sales Record Copy)

SALES COR.	CONV. SECT.
PROM. SECT.	PROD. DEV.
SALES SERV.	SERVICE SECT.
ADV. SECT.	CONTROL DIV.

Salesman F.G.PORTER Date 12/22/37 No. 482

Firm COPPERTHITE PIE CO.,INC. Bus. Pies Class 2-6

St. & No. 22 Madison Ave. City Norfolk State Va.

Controlled by:

Final Decision by (Title) C.A.Copperthite,Pres. Contacted on this call? no

Buyer Miss Holmes Contacted on this call?

Others Contacted this call (Titles) C.A.Copperthite,Jr. - Pl. Supt.

Mailing List?

Type of Call—Productive Service Comp. X

Sources of Supply	Est. Consumption Calendar Quarter	If using competitive material, state type and reasons
Sylvania	1000	Sylvania PT 2nds
duPont	1000	

Items wrapped in transparent sheeting: Pies - cakes

Other products on which Cellophane could be used: (Note new products in work)

a. Specify sales tools used—below:

b. Latest sales story—below:

c. Service and general remarks—below

d. Agreement account? no

e. Did you secure order? mails

Discussed purchases with Miss Holmes who handles all buying. Covered superiority of our film over competitors building on superior service.

Was promised a larger volume of business during 1938 We will probably get larger share of MT 2nds business

Learned Sylvania have two or three times during the past year delivered thirds here at larger discount than 15% off list (Not sure of exact figure but believe it to be 30%) Sylvania giving good service on PT 2nds Shipments being made from Atlanta

Date of Previous Call	Date of This Call	Date Typed	Copies for
11/16/37	12/24/37 LC	12/24/37	

CREATIVE WORK DONE

1. New items on market since last call or order placed—distribution, potential.
2. Result of suggestions made on previous calls.
3. Creative suggestions to extend use of Cellophane made on this call and customer's reactions?
4. What is your plan for next call?
5. What assistance can organization give you? (See back of report)

Made no direct bid for PT 2nds business in view of our limited supply.

Plan follow closely to secure 100% of MT 2nds business

6/1/38 NI Mr. Copperthite not in.

6/20/38 C 4 Sylvania 750. C. A. Copperthite. Miss Holmes. Worked for order MT 2nds. Promised would mail us next order when needed.

V. Miller (B)

8/2/38 C 1 Sylv. 1000 - C.A.Copperthite. Miss Holmes. Learned Sylv. recently suppliedlarge order P.T. 3rds at 28% off list .019. Purchased enough for two months requirements and order was shipped them from Atlanta. Are working with Sylv. on order Sylv. cut in error. Expect to secure material at extra discount. No progress.

Date 8/24/38 Business Last Qtr. vs. Previous Qtr. Competitive Sales—This Qtr. 1500

Remarks: Sylvania PT 3rds and special discount on MT 2nds

9/19/ C 3 Sylvania 750#. C. A. Cooperthite. Worked for business MT 2nds. No definite progress. Sylvania recently supplied PT 3rds. & Job Lot 2nds MT 2nds. (V. C. CLARK) (B) X

10/20/38 C 5 Sylvania 1000#. C. A. Copperthite. No change in status still able to get 3rds from Sylvania. Our last order had 5M sheets badly wrinkled - complained and Sylvania replaced with good sheets. (B) X

Date 11-1-38 Business Last Qtr. vs. Previous Qtr. Competitive Sales—This Qtr. 750

Remarks: Sylvania PT 3rds & 2nds

12/9/38 C 3 Sylvania 100#. C.A. Copperthite. Price reduction is of no interest here. Sylvania supplying 3rds at special discount. Using very little MT 2nds.

Defendant's Exhibit No. 586

R-12515

DUPONT

Cellophane

TRADE REPORT

(Trade Analysis Copy)

B	D
SALES COR.	CONV. SECT.
PROM. SECT.	PROD. DEV.
SALES-SERV.	SERVICE SECT.
ADV. SECT.	PLANNING

Salesman M. M. CLEAVER Date 10/30/39 No. 355

Firm Close and Company Bus. Candy Class 1-12

St. & No. 2021 Fulton Street City Chicago State Ill.

Controlled by: Same

Final Decision by (Title) Frank Urban, Pres. Contacted on this call? Yes

Buyer Ed Urban Contacted on this call? "

Others Contacted this call (Titles) None

Changes in Mailing List? None

Type of Call—Productive Service Comp. X

Sources of Supply	Est. Cons.-lbs. this Calendar Quarter	If using competitive material, state type and reason
Sylv. C	2,000	M. T. Thirds at 26% disc.

Items wrapped in transparent sheeting: Stick candies, suckers, cluster pops, fruit balls.

Other products on which Cellophane could be used: (Note new products in work) Hard candies.

a. Specify sales tools used—below:	d. Agreement account? No.
b. Latest success story—below:	e. Did you secure order? No
c. Service and general remarks—below:	

C. Announced today's new scale of prices on basis of "du Pont has done it again" in the face of rising prices of many other materials. Reminded him that any film not up to our standards for second class material is not regarded as being of adequate quality for use on any product; that we had no category known as "thirds" that whenever we do have a special deal for the purpose of moving an inventory, such as 3 or 5 case lots @ 25% discount, he is always given opportunity to take advantage of such offers and knows that he will get value received on the basis of experience with our material for some

Date of last Prod. Call	Rec'd at District Office	Date Typed	Copies for
10/18/39	11/1	11/2	

CREATIVE WORK DONE

1. New items on market since last call or order placed—distribution, potential.
2. Result of suggestions made on previous calls.
3. Creative suggestions to extend use of Cellophane made on this call and customer's promised action?
4. What is your plan for next call?
5. What assistance can organization give you? (See back of report)

Sylvania	2,000	See below for full explanation.

Items wrapped in Cellophane: Candles.

Other products on which Cellophane could be used: (Note new products in work) None

a. Sales tools used on this call:	b. Agreement account? yes
Samples Trav. Disp. Photos Pack. Dev.	c. Did you secure order? no
Cons. Ads. Trade Ads. Mkt. Sur.	d. Service and general remarks—below

(d) a - Per W.J. Harte's letter 4-7, presented rebate check and statement of sales to Mr. Hiberger.
(b) Hiberger finally broke down and told me the whole story on just what Sylvania has offered them that will save them so many "thousands of dollars per year" in operations with transparent sheeting. It is that the com. titor has agreed to give them a superior grade of seconds "much better than ordinary seconds" (meaning ours) and practically equal to firsts (again meaning (See Below)

Date of last Prod. Call	Rec'd at District Office	Date Typed
3-31-33	4-17-33	4-19-33

CREATIVE WORK DONE

1. New items on market since last call — distribution, potential.
2. Result of suggestions made on last call.
3. Creative suggestions to extend use of Cellophane made on this call and customer's reactions?
4. What is your plan for next call?
5. What assistance can organization give you?

DuPont) at the regular 25% discount. Also second quality roll stock at a "ridiculously low price" and guaranteeing that every shipment will be subject to return without question if it is not satisfactory to Emery. This is all 300 P.T. sheeting the only type they use. I immediately brought up the matter of grain direction and this seems to be a vunerable point. Apparently no arrangement has been made to guarantee long grain on all sheet stock. Which is what they invariably need in wrapping candles. I therefore arranged to send him samples of a certain size with grain both ways, he to wrap a candle number in each and put them away for a period of time to determine results.

They have been using this grade of material for a month now and so far have only had one batch of stock which was not satisfactory for their purpose. Unless we do something to meet such a proposition, he feels that he cannot do otherwise than continue to use such competitive material. I held out no hope that we would attempt to meet such a method of getting business, seconds do have a place in certain industries, if and when available, but our seconds when billed as such are 2nd. quality material and stressed the fact that unless the competitor is giving them actual 1st. class stock at the 2nds. discount, the answer will lie in the appearance of Emery's goods on the retail counter, as 2nd., quality transparent wrapping material is not logical for their type of merchandise.

Syl.	2,500
Ds	1,000

Items in transp. shooting: (specify which is competitive or converted film)

Dates

Other potential products:

Same

a. Price side used—specify below:	d. Mailing list changes—below:
b. Latest success story—below:	e. Agreement expires? —
c. Service and general remarks—below:	f. Did you secure order? : none.

c. Have been in here several times since beginning of date season, but unable to catch Joe Garbosi in his office, so knew nothing until today of the current status here.

This has been a Catty account since its organization 2 seasons ago, all 1st class cut size M.S.C. Tango sheets; they have no machines or sheet cutters, and hand wrap their entire production.

A monkey wrench was thrown into the gears this season in the form of Syl. coming in with 2nds ("just as good") at 47% discount. The seconds were sampled,

CREATIVE ACTIVITY

1. New items on market since last call—supplier, distribution, unusual potential.
2. Result of suggestions made on previous calls.
3. Creative effort: (a) Objective this call? (b) Specific suggestions made; including evidence from your retail store surveys. (c) Action promised by customer?
4. What is your plan for next call?
5. Action needed by: (a) Dixie; (b) Headquarters.

found to be O.K., and have been used ever since at the rate of about a case every 10 days.

I made it very clear that we have never recommended second class stock as a primary wrap on quality packages where smoothness and uniformity are essential to appearance and also that we never attempt to interfere with our agent's established business. However, when the competitor enters the picture with the tactics described, the lid is off, so let's get together on this 2nds proposition. He states he believes Syl. is giving him 1st class stock, as not a sheet yet has seemed to be defective in any way.

Could not get him to take a case of 2nds sight unseen and he wouldn't go for the retroactive angle on a smaller order, so I agreed to send him 1000 sample sheets for a trial. Frankly states his preference to deal with us, and if the samples seem O.K. we will get the business.

With this probability in view, I obtained the following references. Their usage will probably run about 500 per month.

WILMINGTON HANDLE

Merchandise National Bank, 222 W. North Bank Drive, Chgo.
Carton Craftsmen, Inc., 228 W. Chicago Ave., Chgo., Ill.
Trade Wind Foods, Inc., 444 W. Grand Ave., Chgo., Ill.
J. H. Stone & Sons, 4200 W. 42nd Place, Chicago, Ill.

WILMINGTON HANDLE

Credit Dept.: please investigate and advise writer as quickly as possible if we can handle this on open account.

Remarks: Price. Competitor took away from Catty on basis of 47% discount M.S.C. 2nds. M1273

N.W. M.C. 1st

If using competitive material, state reasons why. Special concessions

Items wrapped in Cellophane 10¢ and 5¢ unit Chimes Brownees fig bar, Applesauce cake, fruit cake,

a. Sales tools used on this call:	b. Agreement account?
Samples Pack. Dev. Trav. Display	c. Did you secure order? no If not, when?
Photo Album Market Survey	d. Approx. date next call? Soh. or sooner
Ad. Book Post Campaign "87,000"	e. If service call, state nature below:

Mr. Carr gave information today that Sylvania is delivering orders to his plant without charge. Due to price differences on seconds (DuPont .0273 - Sylvania .027 for example) and free delivery tendency seems to show that we will loose business here. Endeavored to have Mr. Carr give his decision of splitting business 50-50 today but

Date of last Prod. Call	Rec'd At Branch Office	Date Typed	Copies for
11-11-32	11-25-32	11-30-LC	

CREATIVE WORK DONE

1. Men interviewed and titles.
2. Products on which Cellophane could be used.
3. New products under development.
4. New items in Cellophane released since last call.
5. Result of suggestions on last call.
6. Creative suggestions to extend use of Cellophane made on this call.
7. What were the customer's reactions to your suggestions?
8. What is your plan for next call?
9. What assistance can organization give you?

he will withhold decision until later. Feels that he should place business where he can get best price and accomodations.

1. Mr. J.E. Carr, owner
2. Fudge Cake
3. None
4. Fruit cake in 10¢ unit 300 M.T. overwrap (Plain)
5. see (4)
6. Suggested counter display box with Cellophane window for Chimes brownies etc. to give neat appearance and protect from excessive handling.
7. Mr. Carr will consider seriously. Will have several units made up as suggested. Stated that new fruit cake has taken very well and expects to increase sales quality in next few wee
8. Further suggestions on fudge cake. Also follow for decisions on getting as much of Mr. Carr's business as possible.
9. None

Cooked meats, hams, Bacon sides.

SERVICE CALL

a. Sales tools used on this call:	b. Agreement account? NO
Samples Trav. Disp. Photos Pack. Dev.	c. Did you secure order? NO SOON.
Cons. Ads. Trade Ads. Mkt. Sur.	d. Service and general remarks—below

We are losing poundage here due to use of Sylphrap 3rd. Our poundage has fallen off badly since first of year they've only used 1,547# as against 3,650# for last quarter. The loss is due to use of 3rds.

Date of last Prod. Call	Rec'd at District Office	Date Typed	Copies for
3-15-33	5-24-33	5-24-33	

CREATIVE WORK DONE

New items on market since last call—distribution, potential.

Result of suggestions made on last call.

1 - None.

3. Creative suggestions to extend use of Cellophane made on this call and customer's reactions?

4. What is your plan for next call?

5. What assistance can organization give you?

2 - Last call service. No adoption on hams. Order placed.

3 - Assorted Luncheon meats, bologna, liverwurst, etc., on platter overwrapped in 300 P.T. with label Hygrade Dutch Lunch, to bie in with beer and Rye Bread advertising. Suggested they advertise this assortment in papers and give it some publicity. It should boost the sales on their sausage and Luncheon meats a lot.

They are somewhat interested but doubtful because Detroit is not a delicatessen type market and don't go very strong for these items also their loss would be high if the item didn't move fast. Wilcox promised to send in an order again in few days, last one was for 500# about. He is using Sylphrap 3rds.

4 - Continue on cold meats.

5 - None.

a. Specify sales tools used—below:

b. Latest success story—below:

c. Service and removal remarks—below

d. Agreement account? no

e. Did you secure order? mails

Discussed purchases with Miss Holmes who handles all buying. Covered superiority of our film over competitors building on superior service.

Was promised a larger volume of business during 1938 We will probably get larger share of MT 2nds business

Learned Sylvania have two or three times during the past year delivered thirds here at larger discount than 15% off list (Not sure of exact figure but believe it to be 30%) Sylvania giving good service on PT 2nds Shipments being made from Atlanta.

Date	Dictated	Typed	Copies for
11/16/37	12/21/37 LC	12/24/37	

CREATIVE WORK DONE

1. New items on market since last call or order placed—distribution, potential.
2. Result of suggestions made on previous calls.
3. Creative suggestions to extend use of Cellophane made on this call and customer's reactions?
4. What is your plan for next call?
5. What assistance can organization give you? (See back of report)

Made no direct bid for PT 2nds business in view of our limited supply.

Plan follow closely to secure 100% of MT 2nds business

2/16/38 C duPont 1000 - Sylvania 1000 - Placed last order MT 2nds with Sylvania - 3 cases at 25% off. Promised next order. Contacted Miss Holmes, buyer. Feel we have opportunity to secure 50% of business here. Sylvania will unquestionably secure half or more, in view of their generous entertainment program here.

Date 11/17/37 Business Last Qtr. vs. Previous Qtr. 332 Competitive Sales—This Qtr. 350

Remarks: Sylvania PT 2nds.

2/19/38 Business Last Qtr. vs. Previous Qtr. Competitive Sales—This Qtr. 750 Syl

Remarks: Split business

3/17/38 C - duPont 1000 Sylvania 1000 - C.A. Copperthite - Follow for order. Enough PT 2nds stock on hand for present. Placed 3 cases 300 MT 2nds at 25% off, during Feb. with Sylvania.

4/26/38 C duPont 500 - Sylvania 500 - C.A. Copperthite Pres. Worked for business MT 2nds - Have enough on hand - Due decided fall off on deliveries past few weeks. Promised next order.

Date 5/25/38 Business Last Qtr. vs. Previous Qtr. Competitive Sales—This Qtr. 750

Remarks: Guaranteed source for PT 2nds. M1277

Sylvania recently supplied PT 3rds. & Job Lot 2nds MT 2nds. (V. C. CLARK)

10/20/38 C. 5 Sylvania 100#. C. A. Copperthite. No change in status still able to get 3rds from Sylvania. On last order had 5M sheets badly wrinkled - complained and Sylvania replaced with good sheets.

Date 11-1-38 Decrease Last Qtr. vs. Previous Qtr. Competitive Sales—This Qtr. 750

Remarks: Sylvania PT 3rds & 2nds

12/9/38 C. 3 Sylvania 100#. C.A. Copperthite. Price reduction is of no interest here. Sylvania supplying 3rds at special discount. Using very little MT 2nds.

2/2/39 MT. Proper contact out of city.

Date 2/27/39 Decrease Last Qtr. vs. Previous Qtr. 1,095 (Dir.) Competitive Sales—This Qtr. 750

Remarks: P.T. 2nds Sylv. - Balto.

a. Specify sales tools used—below:	d. Agreement account? No
b. Latest success story—below:	e. Did you secure order? No
c. Service and general remarks—below:	

C. Announced today's new scale of prices on basis of "du Pont has done it again" in the face of rising prices of many other materials. Reminded him that any film not up to our standards for second class material is not regarded as being of adequate quality for use on any product; that we had no category known as "thirds" that whenever we do have a special deal for the purpose of moving an inventory, such as 3 or 5 case lots @ 25% discount, he is

Date of last Prod. Call	Rec'd at District Office	Date Typed	Copies for
10/18/39	11/1	11/2	

CREATIVE WORK DONE

1. New items on market since last call or order placed—distribution, potential.
2. Result of suggestions made on previous calls.
3. Creative suggestions to extend use of Cellophane made on this call and customer's promised action?
4. What is your plan for next call?
5. What assistance can organization give you? (See back of report)

always given opportunity to take advantage of such offers and knows that he will get value received on the basis of experience with our material for some time. Again suggested that he check a little more closely into his operation on these so-called "thirds" from the standpoint of whether or not the 28% discount really means the saving it seems to at first, when stretch sheets, unsightly finished packages, unusable sheets and short count are considered.

Still maintains that 28% on one case lot has meant money in his pocket and that the stock is "good enough". Admits our leadership in making it easier for customers to use transparent film, and asserts that, all things being equal or nearly so, we would get the business. Just can't resist a bargain and this "bargain" has not been going on for nearly 18 months.

They are in the midst of their bulk hard candy season now and are using very little transparent film for suckers, etc. However, today's interview went far towards insuring roll stock business here for us when, as and if they install wrapping machines, not only for suckers but also for a proposed new operation on individually wrapped hard candies. This is planned as a major move in 1940 and would have been done this year had it not been for the necessity of replacing some expensive candy manufacturing equipment, which unexpectedly went bad on them.

Continued build up will result in substantial future volume here.

NEW ROUTE SHEET.

5159 M1279 1121

11-29-39	C	Ed. & Geo. Urban. Followed up re price reduction but still getting 28% discount and can't see difference. Using little at present; mainly holiday bulk hard candies. Discussed ~~possible machine wrapping for 1940. No plans~~ re that or new plant as yet.

1. Date 11-26-39 Bureau Last Str. vs. Previous Str. Competitive Sales—This Str. Syl. 1000
2.
3. Remarks: 25% discount on 3rds.
4.

M1279

MACHINE DEVELOPMENT REQUEST

1. Product?
2. Samples? (If no samples give sketch and complete overall dimensions of each size.)
3. "Cellophane"? Weight, color, type
4. Daily production each size?
5. Yearly production each size?
6. Is production seasonal?
7. Average retail price each size?.
8. Are wrapping machines now used?
9. Name of manufacturers?
10. Machine model and number?
11. If new machines required, shall machine manufacturers salesmen call?

5160

1122

Defendant's Exhibit No. 587

R-13813

DUPONT

Cellophane
TRADE REPORT
(Trade Analysis Copy)

SALES COR.	CONV. SECT.
PROM. SECT.	PROD. DEV.
SALES SERV.	SERVICE SECT.
ADV. SECT.	PLANNING

Salesman W. G. Clark Date 12-26-39 No. 611

Firm C. H. Cox & Co. Bus. candy Class 2-4

St. & No. 625 Mary St. City Waco State Texas

Controlled by:

Final Decision by (Title) C. H. Cox Contacted on this call? yes

Buyer Contacted on this call?

Others Contacted this call (Titles) A. R. Moser

Changes in Mailing List?

Type of Call—Productive Service Comp. X

Sources of Supply	Est. Conc.-lbs. this Calendar Quarter	If using competitive material, state type and reasons
Brooks	1,200	MT seconds(sheets & rolls) at 27¢ per pound.
Sylvania	650	PT Thirds at 28% discount

Items wrapped in transparent sheeting: candy

Other products on which Cellophane could be used: (Note new products in work)

a. Specify sales tools used—below:

b. Latest success story—below:

c. Service and general remarks—below:

d. Agreement account? no

e. Did you secure order? no

Date of last Prod. Call	Rec'd at District Office	Date Typed	Copies for
11-3-39 11-3-39	12-29	12-29	

CREATIVE WORK DONE

1. New items on market since last call or order placed—distribution, potential.
2. Result of suggestions made on previous calls.
3. Creative suggestions to extend use of Cellophane made on this call and customer's promised action?
4. What is your plan for next call?
5. What assistance can organization give you? (See back of report)

A strictly competitive call, and bid for his business, on a strictly straight price basis - PT Seconds & MT Seconds at 15% discount. Has been able to secure Thirds at 28% discount from Sylvanis Warehouse, and he has also been securing cut-to-size MT Seconds from Brooks at 27¢ per pound, and some seconds in rolls at 26¢ per pound. Apparently Brooks is attempting to meet Sylvania prices here, and have cut under them with these prices. I saw the stock as well as invoices today.

No chance for any direct business here with the above situation existing with Dallas Warehouse as well as Brooks. Assured me a good share, or all os his business, at such time, when he is no longer able to secure the above concessions.

I told Cox very definitely that we did not have anything like the above to offer him, and that we wanted his business only on a profitable basis to all considered.

5161 M1281 1123

RETAIL STORE SURVEY

When you used in your interview information developed by your survey of retail stores, give the facts briefly under question 3. Information affecting products in other territories should be reported below.

• • • •

When requesting Package and/or Machine Developments, supply complete information as given below under Question No. 3.

PACKAGE DEVELOPMENT REQUEST

1. Product?
2. Date wanted?
3. Retail Price?
4. When will samples be sent?
5. Description of development desired; type of wrap, label, containers, etc.
6. Type of Cellophane?
7. Machine wrapped?
8. Return direct to account? If to you, where?

MACHINE DEVELOPMENT REQUEST

1. Product?
2. Samples? (If no samples give sketch and complete overall dimensions of each size.)
3. "Cellophane"? Weight, color, type
4. Daily production each size?
5. Yearly production each size?
6. Is production seasonal?
7. Average retail price each size?
8. Are wrapping machines now used?
9. Name of manufacturers?
10. Machine model and number?
11. If new machines required, shall machine manufacturers salesmen call?

5162 1124

Defendant's Exhibit No. 588

DUPONT CELLOPHANE

TRADE REPORT

(District Office File Copy)

Salesman Clark — Date 11/9/31 — No. 1289

Firm Trebow Cigar Co. — Bus. Cigars — Class 3-4

St. & No. 324 No. 9th St. — City Phila. — State Pa.

Controlled by:

Final Decision by Mr. Trebow, Pres. Mr. Sol. Supt. — Contacted on this call? Yes

Buyer same. — Contacted on this call?

Type of Call* — Productive — Service X

Transparent Sheeting Used					Bo't From	Estimated Consumption-Lbs. This Quarter	Estimated Consumption-Lbs. Next Quarter
300 X	P.T.	Emb.			DuPont	1500	1500
450	P.C.	Sheets X	Misc.				
600	M.T. X	Rolls					
H.W.	M.C.	Lgts X					

If using competitive material, state reasons why.

Items wrapped in Cellophane: Cigars

a. Sales tools used on this call:

Samples — Pack. Dev. — Trav. Display

Photo Album — Market Survey

Ad. Book — Post Campaign

b. Agreement Account? No

c. Did you secure order? No — If not, when?

d. Approx. date next call? Sch.

e. If service call, state nature below:

Adopted printed Cellophane wrap for holiday box. (Their Chicago jobber purchased wraps.). Have used no Nymphrap as yet but say Sylvania is offering them a cash discount of 5% and will ship them on open account. Guarantee a product as moistureproof as Cellophane and a far better yield. Stressed the need of best protection that it is possible to get.

Date of last Prod. Call	Rec'd at Branch Office	Sent Office	Call for
8/17/31	11/11/31	11/11/31	see below

CREATIVE WORK DONE

1. Men interviewed and titles.
2. Products on which Cellophane could be used.
3. New products under development.
4. New items in Cellophane released since last call.
5. Result of suggestions on last call.
6. Creative suggestions to extend use of Cellophane made on this call.
7. What were the customer's reactions to your suggestions?
8. What is your plan for next call?
9. What assistance can organization give you?

Pointed out that the use of an inferior product will not only jeopardise their business but the cigar business as a whole, since a smoker buying dry cigars ina wrapping which he thinks is Cellophane will eventually go to cigarettes or a pie, to get a fresh smoke. They get credit from every supplier but the DuPont Company so say they will buy from Sylvania inthe future if we will not give them credit. Claim they discount all bills. (See letter to Credit Dept. asking that they consider open account for above).

5163 M 1262 1125

Defendant's Exhibit No. 589

DUPONT CELLOPHANE

TRADE REPORT

(District Office File Copy)

Salesman Crowley | Date 4-3-33 | No. 324

Firm Armour & Co. | Bus. Meat | Class 1-12

St. & No. U.S. Yards | City Chicago | State Ill.

Controlled by:

Final Decision by (Title) Dept. Heads | Contacted on this call? Rudd

Buyer R. Elmstrom | Contacted on this call? yes

Others Contacted on this call (Titles) J. Lynch, A.P.A.

Type of Call Promoting: | Service X

Sources of Supply	E: Cons.-Ins. T: a Quarter	If using competitive materials, state type and reasons

Items wrapped in Cellophane: 3 1/4 ¢ T-10PNC.C. SALES RECORD

Other products on which Cellophane could be used: (Note new products in work)

a. Sales tools used on this call:	b. Agreement account?
Samples Trav. Disp. Pict. Pack. Dev.	c. Did you secure order?
Cons. Ads. Trade Ads. Mkt. Stv.	d. Service and general remarks—below

(a) Elmstrom and Lynch claim we have been receiving all of their plain sheeting business for the meat divisions. This is contradictory to Mr. Callenders T.R. 293 of 3-22-33 covering their So. St. Paul plant's activities. If possible I would like to have Mr. Callender verify Mr. Schervin's statement by attempting to get out in their stock room.

(b) Elmstrom has recently inquired of Shellmar if "Sylphrap" was specified whether they could supply it (See Below)

Date of last Prod. Call	Rec'd at District Office	Date Typed	Checked
3-27-33	4-4-33	4-5-33	

CREATIVE WORK DONE

1. New items on market since last call—distributors, potential.
2. Result of suggestions made on last call.
3. Creative suggestions to extend use of Cellophane made on this call and customer's reactions?
4. What is your [illegible] for next call
5. What assistance can organization give you?

or not. It appears definitely now that Sylvania has offered them this extra rebate concession by allowing all converter purchases to be applied against their quantity purchase agreement on plain sheeting. This matter was covered on T.R. of 3-17-33 and 3-27-33. I will follow to secure more information if possible.

(c) Representative of Chambaum presses has been contacting here attempting to interest them in printing their own Cellophane. Claims they can save 25% on cost of printed roll stock. Operating and purchasing depts. are investigating.

(d) Requested samples of our #2 sheeting, 300 S.T. and 300 S.S.T. sheets to conduct exhaustive tests on bacon wrapped in these materials. They will also use Protectoid sheet on this tests. The Protectoid representative delivered their sample sheets today. Chicago office is writing N.Y.O. about this request. I covered qualities of all our sheets and Protectoid in detail.

5164 1126

Defendant's Exhibit No. 590

DU PONT

Cellophane
TRADE MARK

TRADE REPORT
(Trade Analysis Copy)

SALES COR.	
PROM. SECT.	
SALES SERV.	
ADV. SECT.	
CONV. SECT.	
PROD. DEV.	
SERVICE SECT.	
PLANNING	

Salesman: dp M.J. MINKER & R.E.SIDWELL — Date: 5/21/40 — Type Call: C

Firm: GIBSON CANDY CO. — Date last Call: 4/1/40 — Type Call: — Date last Prod. Call: — Class: 2-6

St. & No. — Bus.: Candy

City & State: Bristol, Va. — Controlled by:

Final Decision by (Title): W.H. Gibson — Contacted this call? Yes

Buyer — Contacted this call?

Others Contacted this call (Title)

Sources of Supply	Est. Cons. lbs. this Calendar Quarter	Using competitive material, state type and reasons
Sylv.	3,000	

Items in transp. sheeting: (specify which is competitive or converted film)
5¢ candy sticks, 1¢ stick, 10¢ specialty packages thru chain stores.

Other potential products

a. Sales aids used—specify below:
b. Latest success story—briefly:
c. Service and general reports—below:
d. Mailing list changes—below: No
e. Agreement expires?
f. Did you secure order? No

Straight comp. call pointing out our services to our customers, work we do in helping them merchandise thru chains etc. Related growth Krockel & Oetinger since allowing us to help them. Gibson claims he will give us some business, but won't be in the market for about 2 weeks.

Date 5/20/40 — Decrease Last Qtr. vs. Corr. Qtr. — Competitive Sales—This Qtr. 1,000

Remarks: Overnight service and colored PT & PC 2nds
seconds same price as PT seconds

8/6/40 C. Followed thru on our services to the candy industry etc. finally got an order for 1 case. Phila. Gibson told me the freight rate from Atlanta is $1.00 CWT and on his last shipment Sylv. gave him a rebate so that his freight is .62 per CWT against .86 from Richmond. This is no doubt the same tactics they are using with Cannon.

Date 8/24/40 — Decrease Last Qtr. vs. Corr. Qtr. — Competitive Sales—This Qtr. 2,000

Remarks: Freight rate Atlanta 2nds

COMPARISON OF DU PONT AND SYLVANIA
CELLOPHANE FILM PRICES (ROLLS ONLY)
1947 - 1950

Types of Film		December 31, 1946		January 1, 1947		January 22, 1947		June 1, 1947		October 1, 1947		November 1, 1947		February 1, 1948		August 1, 1948		January 1, 1949		May 26, 1949		Sept
DuPont Code	Sylvania Code	DuPont	Sylvania	DuPont	Sylvania	DuPont	Sylvania	DuPont	Sylvania	DuPont	Sylvania	DuPont	Sylvania	DuPont	Sylvania	DuPont	Sylvania	DuPont	Sylvania	DuPont	Sylvania	DuPo
300 MT	300 M	41	41	41	41	41	41	41	44	44	44	44	44	44	48	47	48	47	48	47	47	4
300 MST	300 MS	41	41	41	41	41	41	41	44	44	44	44	44	44	49	48	49	48	49	48	48	4
300 MSAT*	300 MSB	57	(no data)	57	(no data)	57	57	57	60	54	60	54	54	54	59	56	59	56	59	56	56	5
450 MST	450 MS	46	46	46	46	46	46	46	49	45	49	45	45	45	50	48	50	48	50	48	48	4
450 MSAT*	450 MSB	62	(no data)	62	(no data)	62	62	62	65	55	65	55	55	55	60	56	60	56	60	56	56	5
600 MST	600 MS	54	(no data)	54	(no data)	54	54	54	57	50	57	50	49	50	54	52	54	60	54	60	54	6
300 PT	300 P	33	33	33	33	33	38	33	38	42	38	42	43	42	43	45	43	45	46	45	45	4
300 PRC Tango	300 C-1 Gold	50	(no data)	50	(no data)	50	55	50	55	62	55	62	60	62	60	63	60	63	63	63	63	6
Cash Discount		none	1% 10 days	none	1% 10 days	none	1% 10 days	none	1% 10 days	none	1% 10 days	none	1% 10 days	none	1% 10 days	none	1% 10 days	none	1% 10 days	1% 10 days (Aug.10,1949)	1% 10 days	1%
Converter Discount		10%	(no data)	7½%	(no data)	7½%	(no data)	7½%	(no data)	7½%	(no data)	7½%	7½%	7½%	5%	5%	5%	5%	5%	5%	5%	
Published Yield (sq.in. per lb. for 300 PT and 300 P)		23400	23000	23400	23000	23400	23000	21500 (July 1,1947)	23000	21500	23000	21500	21500	21500	21500	21500	21500	21500	21500	21500	21500	215
Separate and Higher Prices For Quantities Less Than 500 lbs.		No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	

* On Du Pont price lists of Aug. 1, 1948 and thereafter, price shown is for MSAT 80, 86, & 87.

Legend: Figures in boxes indicate Sylvania Prices which differ from Du Pont prices.

Sources:
Government Exhibit Nos: 193, 226-232, 396, 398.
Defense Exhibit Nos: 372-374, 377, 384, 406.
DuPont Price List, October 1, 1950.
Sylvania Price Lists, September 1, 1950 and December 15, 1950.

Eastman is also reported to be planning increased capacity.

All producers have increased selling prices and the comparisons are as follows:

Kind	Du Pont	Eastman Regular	Eastman Butyrate	Celanese Rolls (Other Than Stock Width) P903, P904, P912		Celanese - 40" & 50" Stock Width Rolls P903, P904, P912 ± 1/32"		Celanese - 40" & 50" Stock Width Rolls P903, P904, P912 ± 1/2"	
					8/1/47		8/1/47		8/1/47
88(43 or 48)	.65	.72	.88	.66	.67	.63	.65	.60	.60
100	.65	.72	.88	.67	.67	.64	.65	.61	.60
120	.69	.73	.90	.69	.69	.65	.66	.62	.62
150	.76	.75	.95	.72	.76	.68	.73	.65	.67
200	.93	.90	1.10	.85	.90	.80	.87	.77	.80

Note: Prices for Celanese P911, which is competitive with our CA-48 material, are 3¢ per pound higher than those above.

Discount Policy

Du Pont has discontinued giving discounts.

Eastman has eliminated their former discounts.

8/1/47 - 7½% Celanese is giving a 10% discount on their prices to converters, agents, jobbers, fabricators, window box and window envelope trade. These users comprise 90% of du Pont's total sales.

Therefore, when interpreting the above prices and discount policies, du Pont's prices are about 10% below Eastman and 10% above Celanese.

NON-CELLULOSIC FILMS

Pliofilm

The Government restrictions on the use of Pliofilm mentioned in the third quarter report has been removed. Pliofilm can now be marketed for any use.

11812

Defendant's Exhibit No. 591

COMPARISON OF DU PONT AND SYLVANIA
CELLOPHANE FILM PRICES (ROLLS ONLY)
1947 - 1950

47	January 22, 1947		June 1, 1947		October 1, 1947		November 1, 1947		February 1, 1948		August 1, 1948		January 1, 1949		May 26, 1949		September 1, 1950		October 1, 1950		December 15, 1950	
ia	DuPont	Sylvania	DuPont	Sylvania	DuPont	Sylvania	DuPont	Sylvania	DuPont	Sylvania	DuPont	Sylvania	DuPont	Sylvania	DuPont	Sylvania	DuPont	Sylvania	DuPont	Sylvania	DuPont	Sylvania
—	41	41	41	[44]	44	44	44	44	44	[48]	47	[48]	47	[48]	47	47	47	[51]	51	51	51	[55]
	41	41	41	[44]	44	44	44	44	44	[49]	48	[49]	48	[49]	48	48	48	[52]	51	[52]	51	56
(a)	57	57	57	[60]	54	[60]	54	54	54	[59]	56	[59]	56	[59]	56	56	56	[60]	59	[60]	59	[64]
	46	46	46	[49]	45	[49]	45	45	45	[50]	48	[50]	48	[50]	48	48	48	[52]	51	[52]	51	56
a)	62	62	62	[65]	55	[65]	55	55	55	[60]	56	[60]	56	[60]	56	56	56	[60]	59	[60]	59	[64]
a)	54	54	54	[57]	50	[57]	50	[49]	50	[54]	52	[54]	60	[54]	60	[54]	60	60	63	[60]	63	[65]
	33	[38]	33	[38]	42	[38]	42	[43]	42	[43]	45	[43]	45	[46]	45	45	45	[49]	49	49	49	53
a)	50	[55]	50	[55]	62	[55]	62	[60]	62	[60]	63	[60]	63	[63]	63	63	63	[67]	67	67	67	[71]
ys	none	1% 10 days	none	1% 10 days	none	1% 10 days	none	1% 10 days	none	1% 10 days	none	1% 10 days	none	1% 10 days	1% 10 days (Aug.10,1949)	1% 10 days	1% 10 days	1% 10 days	1% 10 days	1% 10 days	1% 10 days	1% 10 days
a)	7½%	(no data)	7½%	(no data)	7½%	(no data)	7½%	7½%	7½%	5%	5%	5%	5%	5%	5%	5%	5%	5%	7%	5%	7%	5%
	23400	23000	21500	23000 (July 1,1947)	21500	23000	21500	21500	21500	21500	21500	21500	21500	21500	21500	21500	21500	21500	21500	21500	21500	21500
	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

ce shown is for MSAT 80, 86, & 87.
iffer from Du Pont prices.

0.

Defendant's Exhibit No. 392

EXTRACT FROM CELLOPHANE COMPETITIVE REPORT

SECOND QUARTER - 1946

CELLOPHANE COMPETITIVE REPORT

SECOND QUARTER 1946

VISCOSE FILM

Moistureproof Sales Only - (000's Omitted)

Based on Royalty Payments

	Du Pont		Sylvania		Total
	Pounds	%	Pounds	%	Pounds
2nd Quarter 1946	22,528	76	6,943	24	29,471
1st Half 1946	45,544	77	13,911	23	59,455
1st Half 1945	40,189	76	12,370	24	52,559
Total Sales (Including Export)					
2nd Quarter 1946	26,750	76	8,500	24	35,250
1st Half 1946	53,988	77	16,500	23	70,488
1st Half 1945	47,304	77	13,935	23	61,239

Both producers, during the second quarter, operated at below capacity due to raw material shortages. The resulting production shortage aggravated the already difficult problem of distributing Cellophane in our over-sold market. The demand for Cellophane continues to increase far beyond the capacity of the industry.

Sylvania is reported to be expanding their distribution to converters. Two new ones have recently received an allotment and others have been given or have been offered increased allocations.

Our converters increased price schedules on printed Cellophane 3 to 8%. The price of bleached sulphite for waxed paper was increased 10% as of May 14, 1946. The price of plain and printed waxed and glassine wrapping papers were increased 5% on plain and 4% on printed as of July 11th, 1946.

M1135

Export Sales of Viscose Films

There has been no change in the relative position of du Pont and Sylvania in supplying the foreign market. The demand is still far in excess of the supply.

Activity among European manufacturers is continuing. La Cellophane in France is reported to be operating two or three machines at Nantes, but none at Bezons. Feldmuhle of Switzerland, Nordiskcellulose of Sweden, British Sidac Ltd., British Cellophane Ltd., British Rayophane Ltd. and Transparent Paper Ltd. are all reported increasingly active. E. S. & A. Robinson of Bristol, England, is reported to be planning to manufacture viscose film.

Matarazzo of Brazil is apparently expanding their markets as indicated by a report of the arrival of 40,000 pounds of PT in Venezuela in May. Du Pont's exports to Venezuela so far this year totaled 104,000 pounds.

M1135

CELLOPHANE COMPETITIVE REPORT

YEAR - 1946

VISCOSE FILM

Moistureproof Sales Only (000's Omitted)
Based on Royalty Payments

Year	Du Pont Pounds	%	Sylvania Pounds	%	Total Pounds
1946	90,216	75.5	29,311	24.5	119,527
1945	81,688	78.0	23,292	22.0	104,980
1944	78,678	77.0	23,300	23.0	101,978

Total Sales - Including PT and EXPORTS (000's Omitted)

1946	106,376	75.0	35,000	25.0	141,376
1945	95,600	77.0	28,500	23.0	124,100
1944	93,973	77.0	28,088	23.0	122,061

Sales of du Pont and Sylvania continue to depend entirely on volume of production due to excess of demand over supply. Real competitive selling has been impossible for the past several years.

As the figures above indicate, Sylvania was able to increase their moistureproof production 6,000,000 pounds or 26% above 1945, while du Pont only increased 8,500,000 pounds or 10.4%. This enabled the competitor to strengthen his position in the industry as shown.

It is expected that du Pont will continue to allocate production in 1947 because the demand is still in excess of the anticipated production increase of 30%. It is reported that Sylvania will also continue to allocate their production.

M812

Du Pont announced a new price and discount policy effective January 1st, 1947. Sylvania's announcement came several weeks later and their new price list became effective January 22nd, 1947. The comparisons are as follows:

Prices

Du Pont made no price increase - merely eliminated prices on small quantities, i.e., below 500 pounds on rolls and below 7,000,000 square inches on 300 film, 5,000,000 square inches for 450 film and 4,000,000 square inches for 600 film. Orders received for quantities below these minimums are to be referred to convenient sources of supply.

Sylvania increased prices on plain and colored films only - making them $ .05 per pound higher than du Pont on 300 gauge and $ .02 per pound higher on 450 gauge. All prices on moistureproof films and on 600 gauge plain film remain equal with du Pont

Sylvania retained price schedules below the minimum quantities specified for du Pont and evidently intend to accept small quantity orders.

Quantity Discounts

Both producers eliminated former discounts on quantity agreement accounts.

Discounts to Converters

Both producers reduced converter discounts from 10% to 7-1/2%.

Terms

Du Pont: Net 30 days - no discount for prior payment.

Sylvania: 1% discount 10 days, net 30 days.

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Yields

Published yields remain somewhat favorable to du Pont.

	Approximate Sq. Inches Per Pound	
	Du Pont	Sylvania
Non-Moistureproof		
300	23,400	23,000
450	16,600	16,600
600	12,400	12,300
Moistureproof		
300	21,000	20,800
450	15,300	15,100
600	11,600	11,500

EXPORT - VISCOSE FILM

Du Pont's export volume compares with the estimated Sylvania export volume as follows:

Year	Du Pont	%	Sylvania	%	Total
1946	4,502,500	88	600,000	12	5,102,500
1945	3,225,000	90	350,000	10	3,575,000

The demand from abroad continues far beyond the ability of the industry to supply. It will be necessary to continue allocating available film in 1947 unless present demand falls appreciably.

Reports indicate that British exports of transparent wrapping material in the first eight months of 1946 amounted to 7,000,000 pounds. This is double the amount exported by du Pont from the U.S. in 1946 and about

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four times the amount exported by the British in 1939. The range of markets included Sweden, Straits Settlements, Netherlands, Turkey, Syria, Nigeria, Southern Rhodesia, Norway, Portugal, Brazil, Uruguay, Ireland, Switzerland, Jamaica, Venezuela, Belgium and the United States. Their prices are anywhere from 10% to 25% above ours.

The new film plant in Concepcion, Chile, which was reported to have commenced operations in January 1946, has not as yet offered film in the Chilean market. The anticipated volume was to be about 80,000 pounds per year of PT and PC.

ACETATE FILM

The production of thin gauge cellulose acetate sheeting (under .003 gauge) as obtained from the Department of Commerce Bureau of Census reports, for the year 1946 and the last four months of 1945 is as follows:

Year 1946

Total Industry 11 Months Converted to 12	Du Pont Total	Du Pont Per Cent
8,000,000 Lbs.	1,668,282 Lbs.	21%

*Last 4 Months 1945

Total Industry	Du Pont	Du Pont Per Cent
2,137,526 Lbs.	589,497 Lbs.	28%

*Only 4 months figures available

The figures indicate the production of Celanese and Eastman increased considerably in 1946 over 1945. It is reported that Celanese is planning to triple their present production in 1947 which would be going from about 5,000,000 pounds to 15,000,000 pounds per year. It is their hope that 80% of the increase will be sold in the fresh produce market.

MBV

It is reported that of the seven casting machines owned by Goodyear, four are producing vinyl film (Vitafilm) used principally in raincoat manufacture, bowl covers, etc., the other three are producing Pliofilm. Present production of Pliofilm is estimated at 150,000 pounds monthly.

Goodyear has increased Pliofilm prices on some gauges 10 to 15 per cent. The new prices for gauges comparable to Cellophane are:

Gauge	Approximate Yield Per Pound	Normal (Non-Plasticized)	Plasticized
75	31,000 Sq. In.	$ .90 per lb.	$ .95 per lb.
100	24,000	.87	.92
120	21,000	.83	.88
140	17,000	.85	.90
170	14,000	.93	.98

These prices are about double those for Cellophane.

Goodyear continues to make some progress in the field of fresh produce packaging, as well as meat and poultry packaging. This is largely due to the shortage of Cellophane. They are continuing their experiments in developing a packaging machine to be used in the fresh produce and frozen food fields. They have also told cigarette manufacturers they are working with certain machinery manufacturers to develop a machine to wrap cigarette packages in Pliofilm.

Other Rubber Films

Firestone is selling their .004 gauge Velofilm for shower curtains, etc., but there is no commercial promotion as yet of a thinner material in the packaging field.

Aluminum Foil

Reynolds Metals Company is very actively promoting a new single component laminated, foil-glassine-foil, cigarette package. The advantages claimed are added protection plus elimination of the Cellophane wrapping operation.

The large cigarette producers state they are not seriously considering the adoption of the new foil package. It has certain definite objections such as dull printing, scuffing of the printing and difficulty in opening the package. Then, too, they regard the present Cellophane package as quite satisfactory, although they want us to return to pre-war quality as soon as possible. They also state the Cellophane package has considerable consumer preference. A radical change, such as this foil package, would mean revolutionary changes in equipment and new extensive advertising and promotion expense to build consumer acceptance.

One of the smaller producers, however, plans to try out the new foil package on a minor brand.

Aluminum foil containers, as well as Reyseal foil overwraps are being used in the frozen food field. The former use of foil on candy and potato chips is also being continued. One meat packing concern has released ham in a printed foil wrap. One dairy company is wrapping butter in foil and several others are reported to be planning to adopt it. Other items being promoted are foil household rolls and foil bread wraps, in combination with a Cellophane window.

Reynolds Metals has leased for 5 years a Government owned plant at Newark, Ohio and expect to have it in operation shortly.

Polythene

Visking's Pearlon polyethylene film is now known as Visqueen.

The sale of this film for shower curtains, tablecloths and other non-packaging uses accounts for the major share of the production

Through Traver Corporation, printed bags of this film are being sold for frozen whole turkeys, plain bags for bag-in-box 60-lb. frozen fresh cream and 30-lb. institutional bag-in-box packs of frozen fruits. Printed bags are also used for packaging freshly cooked shrimp for air transport to inland cities. Frozen food locker bags, household utility bags and tubing are substantial outlets. Investigation is also under way to package popcorn in polythene bags.

The Plastics Department estimates the total film production, for all producers, for 1946 as being close to 5,000,000 pounds.

Visking's production for 1946 is estimated at better than 1,000,000 pounds of film. It is reported they anticipate a production of about 2,000,000 to 2,500,000 pounds in 1947.

The Plax Corporation is estimated to have produced 700,000 pounds of flat polythene sheeting in 1946 and expects to increase to 1,000,000 pounds in 1947.

Three other producers, The Harwid Company of Boston, Mass., Gemloid Company of Elmhurst, L.I., and American Phenolic Corporation of Chicago, Ill., are in the active marketing of either flat or tubing polythene and prices are $1.30 to $1.75 per pound.

As previously reported, Shellmar has an extrusion machine for experimental casting.

Polyvinyl Chloride Films

No activity is noted in the flexible packaging field.

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Defendant's Exhibit No. 594

EXTRACT FROM CELLOPHANE DIVISION COMPETITIVE
REPORT SECOND QUARTER - 1948

CELLOPHANE DIVISION COMPETITIVE REPORT

SECOND QUARTER - 1948

CELLOPHANE

VISCOSE FILM

Moistureproof Sales Only - (000's Omitted)
Based on Royalty Payments

	Du Pont		Sylvania		Total
	Pounds	%	Pounds	%	Pounds
2nd Quarter 1948	32,681	79	8,723	21	41,404
1st Quarter 1948	30,445	78	8,570	22	39,015
1st Half 1948	63,126	78.5	17,293	21.5	80,419
1st Half 1947	49,584	77	15,119	23	64,703

Total Sales - Including PT and Exports
Sylvania Estimated

	Du Pont		Sylvania		Total
	Pounds	%	Pounds	%	Pounds
2nd Quarter 1948	39,216	79	10,600	21	49,816
1st Quarter 1948	36,460	78	10,400	22	46,860
1st Half 1948	75,676	78	21,000	22	96,676
1st Half 1947	61,131	77	18,200	23	79,331

As indicated above du Pont's position was strengthened slightly during the quarter. Sales continued at capacity, and capacity continued to be below sales potential. Sylvania's higher prices continued to meet with resistance in the trade and reports are that they were obliged to discontinue allocations and resort to an active selling campaign. M1143

According to the Daily News Record of May 5, 1948 stockholders of American Viscose Corporation were informed at their annual meeting that the Sylvania division at Fredericksburg, Va. would increase Cellophane production to 56 million pounds per year by the end of 1948 and plant capacity will be further expanded to 75 million pounds per year which is twice the pre-war production.

EXPORT VISCOSE FILMS

U.S.A. Exports - 000's Omitted

	Du Pont	%	Sylvania (Est.)	%	Total
1st Half 1948	3,431	80	860	20	4,291
1st Half 1947	2,536	83	520	17	3,056

All foreign markets are becoming increasingly more competitive as well as more difficult to develop and service due to exchange and import restrictions. Great Britain continues to be the largest exporter selling about 85% of its production abroad. It is reported the Japanese are underselling the British by 40% in Hong Kong and the Far Eastern capitals.

Matarasso of Brazil is reported to be producing a heat sealing moistureproof film which is said to be of reasonably good quality.

The New York Herald Tribune reported a 14 million dollar Rayon - Cellophane plant being built in Kafr-el-Dawar near Alexandria, Egypt. The builder is Oscar Kohorn of New York and the report stated the plant is for the Societe Misr pour le Rayonne S.A.E. The Cellophane capacity is reported to be 1,000,000 lbs. annually.

ACETATE FILM

Only the first five months of 1948 production of under .003 gauge acetate sheeting has been reported to date by the U. S. Department of Commerce. The comparison is as follows: M1143

	Total Industry	Du Pont	% Du Pont
1st 5 Months 1948	2,641,801	820,432	31
1st 5 Months 1947	3,587,574	690,619	.19

As previously reported, du Pont's gain in competitive position was due to the solvent recovery explosion at the Celanese, Newark, N. J. plant which halted their production during the first quarter. Total industry volume was back to normal during April and May. On June 15th, 1948, Celanese sent a letter to their trade stating a strike was in progress at their Newark plant and production and shipments were again halted. The letter also stated it was their hope to be able to again handle all orders on a current delivery basis in about six months when installation of additional production equipment will be completed.

NON-CELLULOSIC FILMS

Aluminum Foil

No significant success has been reported in the market test on the foil-glassine-foil cigarette package by one of the smaller cigarette producers.

Reynolds Metals is reported to have recently raised the price of cigarette foil 5¢ per pound. The Aluminum Corporation of America has also been reported as increasing prices of foil about 7%.

Activity by Reynolds Metals in advertising and field promotion continues in all the food markets. However, there have been no significant developments worthy of reporting.

Pliofilm

It is estimated Goodyear's Pliofilm production is between 400 and 500 thousand pounds per month which is about double that of 1947. The increase of 200,000 pounds per month is due to converter use of a modified

M1143

Pliofilm for making margerine bags while polyvinyl and vinyl - Buna N type films are in short supply.

Goodyear is now offering the trade a rebate plan to offset the cost of machine parts and installation charges to convert packaging machines to handle Pliofilm. A full rebate of the conversion charges is to be granted the customer as soon as he has purchased and paid for Pliofilm having an invoice value to twenty times the amount invested provided these purchases take place within a period of two years from the date of the finished conversion.

A quantity discount plan on Pliofilm purchases is being put into effect by Goodyear effective July 1st, 1948. For an annual volume of $100,000 the discount is 3%, for $250,000, 4%, and for $500,000, 5%.

Polythene

We are informed by the Plastics Department that Polythene film production (.002 to .003 gauge) for the first six months of 1948 was 4,000,000 pounds. The 1947 volume was reported as 3,200,000 pounds for the entire year.

It is estimated 25% of current volume is for packaging uses and 75% for fabric replacement.

Prices are being quoted at $.73 per pound.

Goodyear is reported to have lost interest in manufacturing polythene film because of too much competition in this field. According to Goodyear, polythene has not replaced Pliofilm in any markets because of its lack of clarity. Polythene is being successfully used as "camelback" in the rubber industry which has affected the sale of "Visoback". Polythene has a price advantage on "Visoback".

The Bakelite Corporation is advertising Bakelite Polyethylene film in the trade papers as a general packaging material for all types of products including foods and tobacco.

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A new unorientated polyethylene film is being manufactured in limited quantities by the Plastics Division of Imperial Chemical Industries, Ltd. of London, England. The trade name for this film is "Alkathene" and is at present produced in widths up to 45 inches and in thicknesses between one and ten-thousandths of an inch. The film is said to be more transparent than the equivalent being produced in U.S.

Saran

Dow Chemical Company announced a 25% reduction in prices of all Saran films effective 4/26/48. The Saran film 517 which is designed for foods is now selling for 87¢ per pound with a yield of 13,000 square inches and $1.09 per pound for a yield of 16,300 square inches.

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"CEL-O-SEAL"

Estimated Sales - Per Cent of Industry

(Export Not Included)

	Du Pont		Celon		Sylvania		
	M Units	%	M Units	%	M Units	%	Total
2nd Quar. 1948	214,163	65.8	102,475	31.5	8,700	2.7	325,338
2nd Quar. 1947	300,878	65.1	145,940	31.5	15,600	3.4	462,418

It has been necessary for us to amend the figures originally shown for the second quarter of 1947, due to information received after the original report was submitted.

Du Pont's sales to Export during the second quarter amounted to 13% of total sales and sales to Export by Celon was estimated at 5%.

Total estimated sales decreased approximately 30% in the second quarter as compared to the same period of 1947. Decreases were about equal for both du Pont and Celon with Sylvania's sales dropping almost 45%. From this comparison, it would seem that Celon have been able to maintain their relative position in the business, whereas du Pont's share was increased slightly at the expense of Sylvania.

An analysis of sales by trade class indicates that du Pont's sales increased or were equal to sales in 1947 in every direction except to the distilling industry. Here our sales show a 53% decrease, as compared to an estimated decrease of only 47% for Celon. Sylvania's decrease was even greater because of the fact that very few unprinted bands were sold to distillers during this period and that Schenley, one

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of Sylvania's best outlets, bought practically nothing.

[redacted]'s position in the wine industry improved considerably with sales to wineries showing a 112% increase over 1947. Celon's sales to wineries, however, were only 28% more than in 1947 because of the fact that their sales held up much better in 1947. In drugs, our sales increased very slightly, whereas Celon's estimated sales dropped about 40% due primarily to our success in recovering a good portion of the Norwich Pharmacal Company business from Celon.

Sylvania's portion of the total business appears to be very low and particular care will be taken to check up on their activity during the third quarter. They have announced their ability to print in assorted colors and made a concerted drive for business in the New York and Connecticut territories during this period. To our knowledge, no new business was secured as a result of this drive. However, it is reasonable to assume that progress will be made if this aggressive sales policy is applied generally.

Lead and Aluminum Foil

Certain concerns in the liquor industry are still thinking in terms of metal foil as the traditional neck decoration and are not entirely satisfied with the metallic effects we have been able to achieve thus far. Even the bands made with stainless steel flake have met with little success and the criticisms offered range all the way from "too dark" to "too synthetic looking", which indicate that the main objection is to the band itself for certain packages.

The high cost of application, plus the lack of strip stamp protection, are factors which work in our favor here, but this additional

M1143

cost penalty is not a large factor on packages which sell at $5.00 and $6.00 each. However, this trend is changing somewhat and Kinsey Distilling Company, who have used these foil decorations all through the war have finally changed back to bands. A satisfactory shade of gold band will enable us to swing others away from foil.

Aluminum Closures

It is reported that National Distillers will use the "tamper-proof" aluminum closure on pints and one-half pints of "PM" whiskey bottled at the Old Century Distilling plant at Peoria, but will continue to use bands on the fifth package. Century is completely mechanized for use of these closures and it is not surprising that this equipment will be put to use. Otherwise, there have been no indications of any other increased use or interest in this type of closure.

Non-Cellulosic Bands

A report from Parke, Davis & Company indicates that Goodyear has presented some sort of non-cellulose band for evaluation and testing. The material is said to be something other than "Pliofilm", but no samples have been secured as yet. In fact, the development is apparently very nebulous at this point. M1143

Defendant's Exhibit No. 595

EXTRACT FROM ANNUAL MARKET ANALYSIS REPORT
OF CELLOPHANE DIVISION FOR 1948

ANNUAL MARKET ANALYSIS REPORT - 1948

CELLOPHANE DIVISION

CELLOPHANE

1. TRANSPARENT FILMS

The transparent film industry has expanded rapidly, both in types and volume of production, since prewar years. Not only has the production of viscose films been increased very substantially, but also the manufacture of non-viscose types, of which a number of new varieties have been and are being developed. The principal markets for non-viscose films have been competitive with Cellophane only to a very minor degree up to this time. Some are used very little or not at all in the packaging field -- others are employed principally for specialty uses where Cellophane is not well adapted -- none have been successfully introduced into any of Cellophane's main markets, due to their inherent shortcomings. In all cases, these films are sold at higher prices.

However, efforts are being made, wherever possibilities exist, to develop and adapt non-viscose films for packaging uses.

A comparison of estimated sales of principal transparent films now in commercial production is given below:

(000's Omitted)

	1941	1947	1948	1949 Forecast
Viscose	132,500	170,500	204,400	248,000
Cellulose Acetate	3,800	7,200	7,700	8,000
Rubber Hydrochloride "Pliofilm"	2,700	2,500	5,000	9,000
Polythene	-	3,200	8,000	12,000
Vinyl-Buna N	-	600	2,000	?
Vinylidene-Chloride	-	Small.	Small	45,000 * (Not used for packaging
Vinyl Chloride	?	?	40,000	

* Fabric Reinforced Films not used for Packaging

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2. VISCOSE FILMS

During 1948 the industry operated at a record high, selling an estimated total of 204 million pounds of Cellophane with an estimated sales value of 93 million dollars, an increase of 34 million pounds, or 20%. Du Pont's share has been steadily increased since the war due to more rapid expansion of plant facilities to meet the demand for Cellophane, which is still far from being satisfied.

Total Sales - Pounds (000's Omitted)

(Sylvania Estimated)

	Du Pont	%	American Viscose Sylvania Division	%	Total Industry
1948	160,445	78.5	44,000	21.5	204,445
1947	131,974	77.6	38,500	22.4	170,474
1946	106,376	75.4	35,000	24.6	141,376

Practically all of Sylvania's increased production in 1948 came in in the fourth quarter which permitted them, due to present shortage conditions, to make considerable inroads into important Du Pont accounts.

During 1949 we expect to produce and sell 188 million pounds, an increase over 1948 of 28 million pounds, or about 18%. We expect completion of all existing projects during the third quarter, with capacity at 195 million pounds annual rate before the year is over. We estimate Sylvania production for 1949 will approach 60 million pounds, which would bring the industry to total sales of 248 million pounds, an increase of about 22%.

Sylvania's present capacity (January 1949) is reported to be 52 million pounds annually and is expected to increase to 56

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million by the middle of the year. Further expansion is under way to 85 million which is expected to come in by the end of 1949; and we understand another 15 million is being considered which would bring the total to 100 million probably some time in 1950. This expansion is being made at Fredericksburg, Virginia.

Forecasted production for both producers is as follows:

	Du Pont	%	Sylvania	%
1949	188,000	76	60,000	24
1950	195,000	68	90,000	32
1951	200,000	67	100,000	33

We believe that this additional capacity is not sufficient to satisfy the sales potential for Cellophane during this period.

Du Pont increased prices and decreased discounts during 1948, averaging about 8.3%, making a total average increase in actual cost to users including prices, discounts and unit weight changes totaling 22.3% since December 31st, 1946. The latest increases, as was the case in the past, had no appreciable effect on the expansion of the business.

Sylvania's present prices are 1¢ per pound over Du Pont's on the popular types. However, their terms of 1% 10 days from date of invoice reduces this advantage to approximately 1/2¢ per pound.

3. CELLOPHANE DISTRIBUTION

The pattern of Cellophane original distribution has changed as follows, reflecting growth of use of converted film and discontinuance of all wholesale distributors as of July 1st, 1948:

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	1941	1947	1948
Direct Sales	54.4%	51.0%	53.6%
Converters and Fabricators	28.0	38.1	38.4
Industrial Users	1.2	1.4	.8
Wholesale Distributors	11.3	4.7	2.0 (6 mos. only)
Jobbers	1.5	.9	1.3
Export	3.6	3.9	3.9
	100.0%	100.0%	100.0%

Table is attached showing distribution of Cellophane sales by end use. The distribution pattern shows trend towards the food industries, but does not properly reflect true industry sales potentials due to continued short position, the resulting handicaps of distribution by allocation and the policy of supplying total requirements of the tobacco industry.

This is particularly applicable to the baking industry where decision to increase converter allocations and desire of converters to sell in other directions, due to better profit opportunities, has affected our ability to increase use on baked goods in proportion to the potential existing.

An outstanding feature of post-war sales has been the development of prepackaged perishables in self-service food stores. Very large increases are reflected in fresh meats and to a lesser extent in fresh produce. This development, which permits complete self-service in all departments of the store, has proven most successful, and is expanding as fast as additional film becomes available. It represents the largest new potential market for Cellophane. In the 30,000 largest food stores (less than 8% of total stores) the potential on meats alone is 35,000,000 pounds -- today there are nearly 1,000 stores selling prepackaged meats. On produce, the potential is about equal but progress is slower. M826

Substantial progress has also been made in the cracker and potato chip industries and further expansion is delayed only by lack of film.

The trend, fostered by the rapid growth of self-service merchandising, away from sales in bulk to packaged goods in all lines is substantially increasing the sales potential in many segments of the food industry.

Sales increases have been confined to our moistureproof films -- sales of the non-moistureproof grades have actually decreased (from 26 million in 1941 to about 20 million in 1948) and from 25% of total to about 12%. This pattern has been purposely changed since the war due to the greater potential, more satisfactory performance, greater return on investment and larger possible production inherent in moistureproof types. Policy has been to cost all production possible.

4. EXPORT SALES

While export sales have increased substantially since prewar, under shortage conditions they have been kept at approximately the same percentage of total sales (3.6% in 1941, 3.9% in 1947 and 1948). Comparison of sales by U. S. manufacturers follows:

	Du Pont	%	Sylvania	%
1941	3,775,000 Lbs.	90	440,000 Lbs.	10
1947	5,153,000 Lbs.	83	1,050,000 Lbs.	17
1948	6,284,000 Lbs.	81	1,500,000 Lbs.	19

Export markets are particularly valuable in liquidating sheets which are a necessary by-product of manufacture now difficult to sell in the U. S., due to almost universal mechanization of packaging. 40% of export sales are in sheet form.

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Shortage of dollars and difficulty in obtaining import licenses is shrinking the export markets and the Argentine business was lost last fall due to the completion of the "Ducilo" plant. Two local plants in Brazil are also a factor. 1949 export sales, therefore, may decrease somewhat.

Sylvania has improved their relatively weak position in the export markets.

Foreign manufacturers have become increasingly active, particularly the British, who are required to export 85% of their production, which has increased from 16,840,000 pounds in 1947 to 20,500,000 pounds in 1948. Their favorable exchange position has permitted them to dominate many markets. Total foreign manufacture of Cellophane is estimated at 21,400,000 pounds in 1947 and 23,750,000 pounds in 1948. A great majority of this film is non-moistureproof on which British prices are lower than ours. At present, we have the advantage in both price and quality on moistureproof grades.

Du Pont export prices on moistureproof rolls are 3¢ higher than domestic and 2¢ on non-moistureproof type.

5. NON-VISCOSE FILMS

(a) Cellulose Acetate

(000's Omitted)

	1941	%	1947	%	1948	%	1949 Foreseen
Du Pont	720	16	1,570	22	1,870	24	1,870
Celanese & Eastman	3,800	84	5,660	78	5,840	76	6,130
Total	4,520	100	7,230	100	7,710	100	8,000

During the past year, demand has exceeded supply.

It is estimated that 20-25% of the above production (less than 2,000,000 pounds) is sold for uses competitive to

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Cellophane. The greatest volume use is for laminating (foil, paper, board), a substantial portion of which is also used in packaging.

Celanese has recently increased their capacity and are making an active drive for direct packaging uses - principally fresh meats and produce, so far with little success. Eastman is directing most of the effort to their aceto-butyrate film which is superior in the electrical field and for outdoor uses.

Du Pont prices were increased during the year on the popular gauges from a range of 65-76¢ to 75-82¢ and are now about midway between Celanese, which is lowest, and Eastman, highest.

Du Pont production and sales in 1949 will be about the same as in 1948.

(b) "Pliofilm" (Rubber Hydrochloride)

Pliofilm is principally a packaging film, but is an active competitor of Cellophane only in those fringe uses bordering markets that need greater moistureproof protection than Cellophane provides.

It is estimated Goodyear doubled their sales in 1948 over 1947 (from 2,500,000 pounds to 5,000,000 pounds), most of which was for food packaging uses. Present capacity is stated to be 6,000,000 pounds per year, which is being increased to 12,000,000 pounds.

Despite a larger advertising and promotion program (larger than Cellophane's), much of which was directed toward the packaging of produce, this field is still dominated by Cellophane.

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Progress was made at Cellophane's expense, however, on dried fruits. Other important uses are for coffee, cheese, meat loaves and household rolls.

A substantial volume was also sold for margarine bags, but this has been supplanted by Vinyl-Buna N film.

In comparable gauges, Pliofilm sells at about a one-third higher price than Cellophane on an area basis.

(e) Polythene

In the fall of 1948, the Cellophane Division began producing melt extruded polythene film in sheet and roll form on a very limited scale -- with widths limited to 18" to 19".

New equipment will be installed soon providing ultimate capacity of about 3 million pounds annually, with maximum width of 60". Tube extrusion is not presently planned.

It is estimated by the Plastics Department that approximately 8,000,000 pounds of polythene film was produced in 1948, of which 1,000,000 to 2,000,000 pounds went into the packaging field, largely for frozen poultry, frozen food locker bags and home freezer units for frozen food packaging. In 1949, based upon a limited survey and a high spot estimate of uses, the Plastics Department forecasts film production will be 12,000,000 pounds. The breakdown of estimated uses is as follows:

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	1949
Chemical & Drug Packaging	3,000,000 Pounds
Rubber-Camelback & Rubber Products	2,000,000 Pounds
Food & Machine Parts	2,000,000 Pounds
Textile - Fabric Replacement & Textile Wraps	5,000,000 Pounds
	12,000,000 Pounds

Ultimate potential is estimated by Plastics at 33,000,000 pounds per year.

There are today over twenty manufacturers of polythene. The present price structure is not stabilized, ranging from 73¢ to $1.33 per pound in thin gauges. Du Pont's price is 85¢ for 1.5 mil thickness and 80¢ for 2 mil - 4 mil film.

Due to its lower specific gravity, polythene has area advantage per pound over Cellophane of about 30%. This, coupled with the possibility of reduced flake prices as the industry expands, makes it a potential competitor to Cellophane on an area price basis, but it is very doubtful that equivalent thicknesses can be used.

The extent to which polythene will compete with Cellophane depends primarily on whether or not changes and improvements in its present basic characteristics can be made. Today, polythene lacks transparency, is too limp to operate satisfactorily on wrapping machines, it is difficult to heat seal, print and glue, has poor surface slip and high static and is permeable to volatile oils and flavorings.

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Improvements will undoubtedly be made and its competition with Cellophane will increase, but its penetration into Cellophane markets is not expected to any major degree.

(d) Vinyl-Buna N

In 1948 about 2,000,000 pounds of this material was used in a plastic pouch for oleomargarine. Goodrich Rubber Company, in combination with Union Carbide & Chemical Co., were the largest suppliers of this material. This is the only important use in the food packaging field up to the present time.

(e) Vinylidene Chloride Films

"Cry-O-Vac" (Dewey & Almy Chemical Co.)

Small quantities of this material are being used for vacuum packaging of frozen poultry. Only one extrusion machine is reported in operation. Film prices are in range of $1.10 to $1.25 per pound. This company is reported to be experimenting with a heat-shrinkable tube of poly-vinylidene chloride for meat packaging.

Saran (Dow Chemical Co.)

Although this film is superior in moisture protection, no significant commercial uses have been developed, due principally to its high price ($1.09 per pound) and no substantial cost reduction seems to be in sight.

(f) S- Polymers

S- films developed by Standard Oil Co. of N. J. are now being produced in semi-works quantities. It is reported Standard Oil is working with Visking and American Viscose on their commercial production.

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S- polymer now costs 44¢ per pound with the possibility of a 30-35¢ price when quantity production is realized. S- polymer is a copolymer of styrene and isobutylene and has a density of 0.92. The finished film from a 35¢ per pound flake should sell at about 65-70¢ per pound, which is somewhat cheaper than Cellophane on an area basis. However, from our limited experience with this film, we do not know the extent to which it might be adaptable for use in Cellophane markets.

(g) Vinyl Films

A number of vinyl chloride - vinyl acetate polymers and copolymers are being used to produce plastic films. A list of the leading films and manufacturers follows:

"V" Film - Goodyear
"Vitafilm" - Goodyear
"Reynolon" - Reynolds Metals
"Geon" - Goodrich
"Koroseal" - Goodrich
"Vinylite" - Bakelite
"Krene" - National Carbon Co.

These films are sold principally in the fabric replacement field and no packaging uses have been developed. Industry capacity is estimated at about 40,000,000 pounds in 1948 and 45,000,000 pounds in 1949. Flake prices varied in 1948 between 34¢ and 45¢ per pound. Four mil "Vinylite" sheeting is currently selling at 68¢ per pound.

(h) Polystyrene

"Styroflex" (Plax Corporation)

Commercial production of tensilized polystyrene film has been started. Production capacity and uses of this film are not known. Price is in the range of $1.10 to $1.25 per pound.

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CELLOPHANE SALES BY TRADE CLASS (POUNDS)

(000's Omitted)

	Year 1941		Year 1948	
	Total	% of Total Sales	Total	% of Total Sales
TOBACCO				
Cigarettes	14,781	14.1	22,234	13.9
Cigars	3,332	3.2	3,123	1.9
Tobacco	2,181	2.1	1,385	0.9
Total	20,294	19.4	26,742	16.7
FOOD PRODUCTS				
Candy & Gum	10,826	10.4	15,409	9.6
Bread & Cake	33,468	31.9	35,339	22.0
Crackers & Biscuits	5,949	5.7	11,430	7.1
Meat	1,705	1.6	6,541	4.1
Noodles & Macaroni	1,679	1.6	2,407	1.5
Tea & Coffee	738	0.7	1,248	0.8
Cereals	1,576	1.5	1,622	1.0
Frozen Foods	854	0.8	4,457	2.8
Dried Fruit	500	0.5	336	0.2
Nuts	450	0.4	2,665	1.7
Popcorn & Potato Chips	1,200	1.1	4,520	2.8
Dairy Products	1,200	1.1	3,485	2.2
Fresh Produce	-	-	4,035	2.5
Unclassified Foods	4,311	4.2	7,840	4.9
Total	64,458	61.5	101,334	63.2
TEXTILES				
Hosiery	1,016	1.0	1,185	0.7
Textiles	2,914	2.8	2,319	1.4
Total	3,930	3.8	3,504	2.1
MISCELLANEOUS				
Drugs	921	0.9	1,084	0.7
Rubber	323	0.3	475	0.3
Paper	896	0.8	1,964	1.2
Unclassified	10,165	9.7	19,058	11.9
Total	12,305	11.7	22,581	14.1
Domestic Total	100,987	96.4	154,161	96.1
% of Total	100.0		100.0	
Export	3,775	3.6	6,284	3.9
GRAND TOTAL	104,762	100.0	160,445	100.0

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"CEL-O-SEAL"

Estimates of domestic sales only are included in this report. The sources of our information are our own trade sales records and reports from our field salesmen and distributors.

	Industry Sales in MM Units (Export Not Included)				% of Industry		
	Actual	Estimated					
	Du Pont	Celon	Sylvania	Industry	Du Pont	Celon	Sylvania
1946	1,490	563	82	2,135	70	26	4
1947	1,226	595	49	1,870	65	32	3
1948	1,073	563	62	1,698	63	33	4
% Incr. + Decr. - Over 1947	-12.5	-5.4	+26.5	-9.0			

Estimates of competitive sales for 1947 have been amended as the result of information received after our report for 1947 was issued.

Sales of cellulose caps have been included in Celon's total, whereas manufacture and sale of caps was terminated by Du Pont in May 1947. Consequently, sales of both Du Pont and Sylvania represent bands only. Sales of cellulose caps by Celon were estimated to be 30 million during 1948.

The industry as a whole, and Du Pont in particular, suffered from a severe decrease in sales on the part of the distilling industry, the main outlet for our product. Tax paid withdrawals of distilled spirits, as shown in the reports of the Alcohol Tax Unit of the Bureau of Internal Revenue, were about 11% less than in 1947. However, as the result of a change in the unit of sale of distilled spirits, whereby the larger packages increased in volume

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at the expense of the smaller pints and half-pints, there was an even greater decrease in the total number of bottles consumed. Therefore, it is estimated that the potential market for cellulose bands in the distilling industry as represented by sales of glass containers to the industry may have decreased as much as 15% to 20%. Our own sales to the distilling industry declined 27%, which indicates that there were other factors present which affected our sales during 1948. It is interesting to note that our sales increased in every trade class other than distilling, but the loss in this one predominant field was sufficient to offset these rather substantial gains in other industries.

Celon's sales decreased in the drug and distilling industries, but their estimated decrease in sales to the distillers was only 11%. Their relatively better performance in serving this one predominant industry was instrumental in maintaining Celon's sales volume in 1948.

Sylvania's increase was confined largely to the distilling industry, where certain accounts have purchased transparent bands for the purpose of strip stamp protection over a metal closure.

Sales of Cellulose Seals by Trade Class - M Units

	Du Pont		Celon		Sylvania		Total
	1948 Sales	% of Ind.	1948 Sales	% of Ind.	1948 Sales	% of Ind.	Sales For Industry
Drugs	83,239	76	22,939	21	2,740	3	108,918
Toilet Prep.	9,182	29	22,500	70	300	1	31,982
Food Products	24,927	81	5,595	18	135	1	30,657
Beverages	3,057	67	1,550	33	-	-	4,607
Distilleries	649,580	63	351,255	34	36,058	3	1,036,893
Wineries	246,167	61	139,025	34	19,650	5	404,842
Water Bottlers	4,700	45	5,800	55	-	-	10,500
Chemicals	40,369	79	7,670	15	3,160	6	51,199
Miscellaneous	11,560	62	7,025	37	200	1	18,785
Total	1,072,781	63	563,359	33	62,243	4	1,698,383

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In the drug industry, Du Pont's sales increased 22% over 1947, whereas both Celon and Sylvania suffered decreases of about 5% each. Our success in improving our position in this field is largely due to the efforts of our New York District, who were successful in regaining one of the largest drug accounts, Norwich Pharmacal Company, from competition. When it is considered that our 1947 sales included a certain amount of caps, this performance is even more impressive. Celon's loss of the Norwich account was mainly responsible for their overall loss in the industry, as they developed no new business of this size to take its place.

Our sales to the toilet goods industry also showed good progress with another increase of 22%. Inasmuch as some of our largest cap customers were in this field, this increase without the sale of caps is again encouraging. Celon's estimated increase of 10% is due largely to cap customers who automatically switched to them after our termination of the cap business. Purchases of caps by Weco Products Company from the Celon Company are estimated to be about 18 million a year, or one-half the total sales of caps and bands to the industry. Celon's share of this industry is, therefore, large.

Total sales to food packers increased over 30% and almost all of this business was contributed by Du Pont, whose sales increased 51%. Sales by Celon were unchanged and Sylvania, so far as is known, were hardly a factor in the field. The increase in our sales to food packers came from a number of small producers who, we hope, will act as a sort of entering wedge into this vast market. Large packers are still very cost-conscious and are reluctant to enter into wide-spread use of the band without automatic machinery.

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Our sales to the beverage industry increased slightly during 1948, but the total volume is still small. There are indications, however, that this volume may be increased considerably during 1948 particularly among the smaller bottlers who must compete with the nationally advertised brands.

Total sales to the distilling industry decreased about 21% during the year and, as mentioned above, this circumstance was mainly responsible for our poor showing in 1948. Our sales dropped 27%, whereas it is estimated that Celon's sales decreased only 11%. Sylvania showed an actual increase of some 38%. Although there are several unusual factors which affected our sales to this industry in 1948, the performance of both Celon and Sylvania illustrates the intensity of the competition in this major market where real volume is available. Both of them, but Celon in particular, have aggressively solicited all our major accounts and have offered super-service to those strongest intrenched as Du Pont customers. Some progress has been made, and it has been necessary for us to improve our own service to off-set this competitive activity.

We lost approximately 10% of Seagram's business as the result of our inability to match a gold duplex band furnished by Celon and adopted for the Calvert package in January 1948. Following in the lead of Seagram, Publicker Alcohol in Philadelphia decided to use a gold band to replace foil "wrap-arounds". Celon's gold band has been selected for each brand considered and we have not yet received approval of the gold shades which we have submitted. We estimate that another 8 to 10 million bands may have been lost here to competition. These are in addition to what we consider might be the normal expectancy in loss of business to our competitors.

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Aside from this loss of business to our direct competitors, we were faced in 1948 with greatly increased pressure from the manufacturers for metal foil neck decorations. Frankfort Distilling Company, who have purchased practically all their bands from us, decided to use a green foil neck decoration for their "Four Roses" package which meant a loss of some 15 million bands during the year. Schenley, in an attempt to regain some of their lost prestige, began to "dress-up" their packages in metal foil wraps. Most of this business represented a direct loss to us because of Schenley's policy of giving Sylvania most of this unprinted transparent band business. By the end of the year, there were some indications that this trend toward metal decorations may have reached the peak of popularity and that we might expect a more favorable reaction to our product on these particular brands in 1949. Costs are coming into consideration for the first time in years, and this new attitude toward economy may work both in our favor and against us. Where foil decorations are concerned, the cost factor is all in our favor, but where the aluminum "tamper-proof" closures are concerned, this is not always the case. These closures are supposed to perform the double-duty of being a primary seal and acting as a neck decoration as well. Being automatically applied by machine, there may be considerable savings possible in certain instances.

In the wine field, our record for 1948 was much better. Total sales increased 19%, whereas our own sales showed an increase of 28%. Calon and Sylvania increased 7% and 6% respectively. The pattern of sales to this industry went through a drastic change in 1948, and bulk wine was shipped in large quantities to consuming centers throughout the country for the first time since 1941.

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Savings in freight and in cost of supplies enabled the local bottlers to sell wine at prices comparible to those of prewar days, and the volume of wine sold was only slightly below the peak year of 1946. Our persistent contacts with these small wineries throughout the country has, therefore, paid us dividends in the form of increased business.

Our share of the water bottler business remained about the same, even though we showed an increase of 29%. This industry does not offer too great a field and many of the customers now using seals demand a hood cap so as to cover the flush cork completely.

Sales to the chemical industry have shown steady improvement and were 11% above those of 1947. Several large users adopted bands during 1948, and a development underway at this time involving a use for bands in conjunction with low-pressure insecticide bombs may increase our sales to this industry considerably.

Our sales to industries in the miscellaneous category increased 35%, indicating that new and novel uses for bands are being discovered each year.

Aside from the competition of concerns in the cellulose cap and band fields, and of the manufacturers of the various types of metal closures, we are continually being threatened by the pressure of economy. The large distillers have not been too much concerned with costs in the past few years, but with the high cost of producing aged whiskey and the high Federal and State Taxes now imposed, they will probably be caught between the same pressures that are present in most businesses today -- that of rising costs and a resistance to higher selling prices. Bands are still applied by hand and labor is costly and inefficient. Therefore, machines

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so apply bands will soon be a necessity if we are to hold our position with our present trade and expand our business into new outlets having large consumption. It is hoped that by the end of 1949 we will have made considerable strides toward the perfection of such a machine.

Another stumbling block in our way toward 100% acceptance as a secondary seal in many industries is the fact that our bands can be re-soaked and removed. A moistureproof and tamperproof band would open up many new avenues of sales now closed to us and would further insure our permanence in the industries we now serve. M826

Defendant's Exhibit No. 596

CC: T. C. Davis, Treasurer
E. K. Gladding, Director
Development Department
General Managers -
Industrial Departments
L. D. Reed, Director
Trade Analysis Division

April 7, 1950

TO: EXECUTIVE COMMITTEE

FROM: FILM DEPARTMENT

ANNUAL MARKET SURVEY

We submit herewith Annual Market Survey for the year 1949.

D. F. Carpenter
General Manager

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FILM DEPARTMENT

ANNUAL MARKET SURVEY

During 1949, sales and transfers of the Film Departme (formerly Cellophane Division of the Rayon Department) were $93,475,000, an increase of 16% over the year 1948. The relative importance of the various products in terms of 1949 dollar sales and operative earnings were as follows:

	Sales & Transfers (000's Omitted) Amount	As % of Total	Operative Earnings As % of Total
Viscose Films	$85,962	92	93
Collulose Acetate Film	1,323	1	1
Polythene Film	95	-	-
"Cel-O-Seal"	3,022	3	2
Cellulose Sponges	2,362	3	3
Cellulose Sponge Yarn	711	1	1
TOTAL	$93,475	100	100

TRANSPARENT FILMS

After many years in short position, all transparent films were in free supply from about the first of March to the first of September due to a recession in customers' sales and inventory reductions. In the remaining four months of the year, sales improved substantially. This was particularly true of viscose films where an oversold position has again taken place.

Despite the free supply position for part of the year, total sales for 1949 exceeded 1948 in all films except cellulose acetate sheeting. A comparison of estimated sales of principal transparent films is given on the following page:

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	Pounds (000's Omitted) 1948	1949	1949 As % of 1948
Cellophane	204,400	232,800	114
Cellulose Acetate Film	7,800	7,131	91
Polythene Film	8,000	12,000	150
Rubber Hydrochloride - "Pliofilm"	5,000	10,000	200
Vinyl Films (Largely Fabric Replacement)	40,000	60,000	150
S-Polymer - Film	Small	Small	-

CELLOPHANE

Estimated industry sales of 233 million pounds of cellophane for 1949 established a record high for the fourth successive year. This volume represents an estimated sales value of 111 million dollars, an increase of 19% over 1948. Comparison of du Pont and estimated Sylvania sales for the four-year period (1946-1949) with forecasts for the industry from 1950 through 1952 is as follows:

Total Sales - Pounds (000,000's Omitted)

	Du Pont Pounds	%	American Viscose (Sylvania) Pounds	%	Olin Pounds	%	Total Industry Pounds
1946	106	75	35	25	-	-	141
1947	132	78	38	22	-	-	170
1948	160	78	44	22	-	-	204
1949	178	76	55	24	-	-	233
1950 (Forecast)	193	71	80	29	-	-	273
1951 (Forecast)	203	66	85	28	20	6	308
1952 (Forecast)	206	61	100	29	33	10	339

During 1949, Sylvania's share of total sales increased due to more rapid expansion of plant facilities from an estimated 52 million pound annual rate, as of the first of the year, to approximately a 64

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million pound rate at the end of the year, or an increase of 23%. Du Pont also expanded plant facilities, from an annual rate of 180 million pounds in the first quarter to 193.5 million pounds in the fourth quarter, or an increase of 7.5%.

On January 1st, 1949, Sylvania's prices were 1¢ per pound higher than those of du Pont on the popular types. However, their discount terms of 1%-10 days, from date of invoice, reduced du Pont's advantage to approximately 1/2¢ per pound. On May 26th, 1949, Sylvania reduced film prices to equal those of du Pont, but retained a 1% cash discount advantage. On August 10th, 1949, du Pont changed its terms of sale to include a 1% discount for payment 10 days from date of invoice, thus making price schedules of both producers parallel for the principal film types.

The third producer, Olin Industries, is not expected to be in production until some time in 1951. Their capacity for that year is estimated at 20,000,000 pounds with 33,000,000 pounds being reached probably in 1952.

Estimated current domestic market packaging potential for transparent sheeting is 626 million pounds. The industry sales expectancy of 273 million pounds of cellophane for 1950 is, therefore, a penetration of only 44% and the 1952 industry capacity of 339 million pounds represents only 54% of the potential market.

One British film manufacturer has set up an agency in New York City which has solicited some of our important accounts, stating that while not ready to accept business at this time, they soon will be and that their prices will be competitive. The customs duty on imported cellophane is 45% of invoice value.

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CELLOPHANE DISTRIBUTION

The pattern of du Pont cellophane sales distribution during the last three years as divided between direct sales, (film sold directly to end users) converters, (film sold to printers and tag makers) non-packaging uses, (film sold for fabrication and industrial use) resale jobbers, and export is as follows:

	1947	1948	1949
Direct Sales	51%	53%	58%
Converters	33	33	36
Non-Packaging Use's	6	6	3
Resale			
(a) Agents	5	2	-
(b) Jobbers	1	2	2
Export	4	4	3
TOTAL	100%	100%	100%

The attached Exhibit A shows a comparison of the distribution of du Pont cellophane sales by end-use industries for the years 1948 and 1949. Increased sales were largely in the food industries of candy, bread and cake, crackers and biscuits, meat, potato chips, and cereals. Outstanding new developments were the adoption of cellophane for fractional four-in-one packaging of saltines, soda and graham crackers, and the rapid expansion of cellophane prepackaged fresh meat for self-service merchandising. The number of stores adopting cellophane prepackaging for fresh meat increased from 811 at the beginning of the year to 1,400 at the end of the year.

The attached chart, Exhibit B, shows 1949 cellophane sales by industry with estimated current packaging potential for transparent sheeting in those industries. It will be noted a saturation is indicated only in cigarettes. Substantial, unsold potential volume is shown in bread and cake, crackers and biscuits, meat and fresh produce.

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EXPORT SALES - CELLOPHANE

A comparison of du Pont and estimated Sylvania export volume is as follows:

Year	Du Pont Pounds	%	Sylvania Pounds	%	Total Pounds
1948	6,284,000	81	1,500,000	19	7,784,000
1949	4,819,000	80	1,200,000	20	6,019,000

The decline in export volume is due to dollar shortages in most markets and the loss of the Argentine market to "Ducilo".

British producers still enjoy the major share of the foreign market. However, their total export volume in 1949 is estimated to have been 24% lower than for 1948, or 14,500,000 pounds as compared with 19,000,000 pounds. The decrease was due to reduced exports to Argentina and Australia.

British non-moistureproof roll price is $ .3325 per pound as compared with $.47 per pound for du Pont. On moistureproof film, the British price is $.4025 per pound as compared with $.51 per pound for du Pont. Japanese film price on non-moistureproof sheets is $.26 per pound as compared with $.47 for du Pont. These prices are f.o.b. exit port. It will be seen that both the British and Japanese have a definite price advantage in the export market.

The present production volumes of foreign producers is estimated at 115,700,000 pounds per year, as follows:

	Annual Pounds
Great Britain	35,840,000
Europe, exclusive of Great Britain	52,780,000
South America	7,580,000
Canada	15,000,000
Japan	3,500,000
Egypt	1,000,000
TOTAL	115,700,000

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With the exception of British producers and "Ducilo" Argentina, foreign production is largely non-moistureproof film. About 50% of British volume is moistureproof.

CELLULOSE ACETATE FILM

Total domestic production of acetate sheeting (under .003 gauge) and du Pont production compare as follows:

POUNDS (000's Omitted)

Year	Total Industry	Du Pont	
		Pounds	% of Industry
1947	7,227	1,568	22
1948	7,822	1,870	24
1949	7,131	1,705	24

Although 1949 sales were below 1948, du Pont maintained its relative competitive position.

Major competition in the cellulose acetate film market is with Celanese Corporation of America and Eastman Kodak Company. Published prices indicate that Celanese has an advantage in the converter trade of about one cent per pound over du Pont because of its five per cent discount policy. Du Pont and Eastman do not grant a discount, however, Eastman's prices are higher (from $.02 to $.20 per pound) than those of du Pont.

It is expected that sales in 1950 will equal capacity of 1,800,000 pounds as compared with an industry volume of 9,000,000 pounds. The proportion of this volume going into packaging uses is estimated at 50%. The remainder is for industrial uses (laminating purposes and tape manufacture).

The industry potential volume is currently estimated at 15,000,000 pounds, with about 7,000,000 pounds for packaging and 8,000,000 pounds for laminations.

POLYTHENE FILM

In December 1948, du Pont started the manufacture of narrow width, i.e., 16", polythene film on a pilot plant scale. By April 1949,

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the process was improved so that 56" wide film could be produced. In October, operations began on a commercial basis with capacity estimated at 300,000 to 400,000 pounds per month, depending on the production pattern.

Sales during 1949 totaled 276,000 pounds of which 123,000 pounds were made after October 1, 1949, when commercial operations started. Du Pont's sales volume represented about two percent of the industry production volume of approximately 12,000,000 pounds. Currently there are about thirty producers of polythene film. However, the following six producers account for about 75% of total domestic production:

Visking Corporation	Carter Products Company
Plax Corporation	Harwid Company
American Phenolic Corp.	Chester Packaging Products Co.

Competitors' prices range from $.68 to $.72 per pound, as compared with du Pont's current price of $.73 per pound. Even lower prices have been quoted by some producers indicating a definite lack of price stability.

The 1950 sales forecast of 2,200,000 pounds for du Pont is about ten to fifteen percent of estimated volume for the industry. Approximately 78% of our 1950 sales will be used for packaging.

Current estimates of the potential market for polythene film total 54,500,000 pounds. Of this total, 40,000,000 pounds is for packaging, 7,500,000 pounds for fabric replacement, 4,000,000 pounds for the rubber industry, 2,000,000 pounds for industrial uses and 1,000,000 pounds for laminations.

PLIOFILM - (Rubber Hydrochloride)

It is estimated that Goodyear (the sole producer) doubled their sales in 1949 over 1948 (from 5,000,000 pounds to 10,000,000 pounds) most of which was for consumer size bags for prepackaging fruit, margarine pouches (with color capsule), coffee bags, cheese and processed meats. Present production capacity is estimated at 12,000,000 pounds per year.

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The following tabulation shows a comparison of "Pliofilm" prices with those for polythene and cellophane.

	Prices Per Pound	Sq. In. Yield Per Pound	Roll Price Per M Sq. In.
120 "Pliofilm" - Type P	$ .93	21,000	$ .0443
120 "Pliofilm" - Type N	.88	21,000	.0419
150 Polythene	.73	20,000	.0365
200 Polythene	.73	15,000	.0486
300 MST Cellophane	.48	21,000	.0230
450 K-202 Cellophane	.69	14,000	.0493
450 MST Cellophane	.48	14,000	.0343

VINYL FILMS

The production of all vinyl chloride polymers and copolymer films (.005 mil and under) is estimated at 60,000,000 pounds in 1949 as compared with 40,000,000 pounds in 1948.

This production includes the following films:

Type of Film	Trade Name	Manufacturer
Vinyl-Buna N	Visten	Visking Corp.
Vinyl-Buna N	Hycar	Goodrich-Bakelite
Vinyl-Buna N	-	Goodyear
Vinylidene Chloride	Cry-O-Rap	Dewey & Almy
Vinylidene Chloride	Saran	Dow Chemical
Vinyl Chloride - Vinyl Acetate (for fabric replacement)	Reynolon	Reynolds Metals Co.
	Vinylite	Bakelite
	"V" Film	Goodyear
	Geon	Goodrich
	Koroseal	Goodrich
	Krene	National Carbon Co.

About 55,000,000 pounds of vinyl films are estimated as sold for fabric replacement uses, such as rainwear, shower curtains, tablecloths, etc. leaving about 5,000,000 pounds for all other uses.

About 2,000,000 pounds of vinyl-buna N film produced was used for margarine color capsule pouches. This outlet will disappear as manufacture and sale of colored margarine is now permitted in all but

sixteen states and most of these are expected to remove restrictions. Prices of vinyl film range from $.60 to $2.27 per pound, depending on the kind and quality of the film.

Visten film is advertised as applicable for wrapping meat loaves, pickles, luncheon meat and cheese. No estimate is available as to the sales volume except that it is small.

Cry-O-Rap - Dewey & Almy continues its experiments with Cry-O-Rap film for vacuum process packaging of frozen poultry, as well as other packaging uses. However, 1949 sales were relatively small, probably around 500,000 pounds. Recent promotion has been for household bags through department stores for such uses as anti-moth containers, refrigerated food containers, silverware, chinaware, etc. Reports are that Dewey & Almy are planning to double their bag making capacity in 1950. Maximum volume at present is estimated as 1,000,000 pounds per year. Prices range from $1.00 to $1.25 per pound.

Saran Film - Dow Chemical Co. Saran film is now marketed in 25-ft. household rolls at $.43 per roll. Some small quantities of this film have been reported used on natural cheese, dried fruits, pickles in brine and processed meats. No estimate is available of the total sales volume except that it is small. Price is still $1.09 per pound, which places this material in a specialty class.

"S"-Polymers - (isobutylene-styrene copolymers) are produced by the Enjay Co. Division of Esso-Standard Oil Co., New York and the Plax Corporation produced some S-film from this material.

Current price of the polymer is $.44 per pound and may drop to $.30 or $.35 when production is increased. The density is .9 compared with 1.4 for Cellophane and, therefore, on an area factor basis, this film should sell equivalent to Cellophane.

The properties possessed by films made from "S" polymers are insufficient to justify acceptance of these polymers (on an as is basis) as promising materials for films However, Cellophane

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Research has concluded that this class of polymers utilizing styrene and isobutylene - which are potentially low cost materials - require watching. Developments will be followed closely and films appearing in the market examined to determine their impact on cellophane and polythene film.

WAX PAPER

Wax paper and glassine are the principal competitors of cellophane in the packaging field, selling at substantially lower prices. For example, on an area basis, unprinted wax paper sells for 45% less than unprinted cellophane and printed wax paper for over 50% less than the cheapest printed cellophane.

The latest published annual production volumes of these materials are for the year 1948 and below is given a comparison of 1948 with 1947.

ANNUAL PRODUCTION - POUNDS (000's Omitted)

(Department of Commerce - Bureau of Census)

	1947	1948	1948 as % of 1947
Wax Paper (18-lb. and up)	492,262	428,894	87
Glassine, greaseproof & vegetable parchment	312,620	270,582	87
TOTAL	804,882	699,476	87

Producers have recently made some improvement in both quality and appearance of wax paper. Examples of those developed specifically to compete with cellophane are Marathon Corporation's "Tyton", which is meeting with success as an overwrap for frozen food packages and Kalamazoo Vegetable Parchment Company's "Kalakote" which is gaining some acceptance as a bread wrap. Both these wraps are opaque, but have a high gloss finish, approaching the appearance of printed cellophane overwraps and are claimed to offer improved protection, tighter seals and better printing surfaces. Prices are only slightly above regular wax paper.

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"CEL-O-SEAL"

Estimates of domestic sales of cellulose bands for the years 1948 and 1949 are as follows:

Unit Sales - (000,000's Omitted)

	Actual	Estimated			% of Industry		
	Du Pont	Celon	Sylvania	Industry	Du Pont	Celon	Sylvania
1948	1,073	563	62	1,698	63	33	4
1949	1,028	496	71	1,595	64	31	5

The 1949 distribution of du Pont sales was as follows:

(000,000's Omitted)

	Units	Percent
Drugs	90	9
Toilet Preparations	8	1
Food Products	26	2
Distillers	585	57
Wineries	245	24
Chemicals	51	5
Miscellaneous	23	2
TOTAL	1,028	100

Sales to the drug industry continued to improve with an increase of 8% over 1948. However, the greatest single factor in broadening our market for cellulose bands will be the perfection of a bottle-banding machine at low cost. A bottle-banding machine has been in process of development for some time, and it is hoped that the machine recently built at Wilmington Shops will prove satisfactory. This machine will be placed in one of the large distilleries on a trial basis at an early date. Without a satisfactory bottle-banding machine, bands are always vulnerable to being replaced by the aluminum type of closure. Aluminum closures, although more costly than a regular screw cap and band, have the virtue of being applied in one

M1342

operation automatically. They, therefore, permit considerable saving in labor cost and equipment.

CELLULOSE SPONGES

The cellulose sponge plant operated at top capacity (29 MM cubic inches per month) for the first six months of the year. In July production increased from expanded capacity and, by mid October, the market for cellulose sponges was temporarily saturated. Production was curtailed for the balance of the year to 90% of expanded capacity (48 MM cubic inches per month).

Principal competition in the cellulose sponge market came from the O-Cel-O Corporation. In May, O-Cel-O started operation of a new plant in Buffalo with an estimated capacity of 22 million cubic inches per month and, as a result, was able to flood the market with sponges at a time when we were forced to keep customers on allocation.

Consequently, the year 1949 saw the sponge market change from one of short supply to one of stiff competition. The following table shows estimated domestic sales of cellulose sponges and non-cellulose synthetic sponges other than rubber, and natural sponges.

POUNDS (000's Omitted)

	1948		1949		1949
	Pounds	As % of Industry	Pounds	As % of Industry	As % of 1948
Du Pont - Cellulose	504	43	675	50	134
O-Cel-O - Cellulose	176	15	257	19	146
Burgess - Cellulose	11	1	30	2	273
Imported - Cellulose	23	2	34	3	148
Ivano - Synthetic	59	5	38	3	64
Natural	398	34	309	23	78
TOTAL	1,171	100	1,343	100	115

M1342

Total sales of sponges, in pounds, increased about 15% over the year 1948 and du Pont obtained its share of the increased sales. Estimated dollar sales declined about 14% due to a decrease in higher priced Natural sponges. Du Pont dollar sales increased about 10%. However, sales could not be increased rapidly enough to absorb expanded capacity in the last few months of the year. Consequently, in the fourth quarter, advertising campaigns in Sunday Newspaper Supplements and Trade Journals were mapped out; spring dating of orders whereby Jobbers are encouraged to order early in the year was revived and arrangements made for special offers. Ground work was also laid for better distribution of sponges through grocery and super markets.

Through an electrical coagulation process, sponge strength was considerably improved during the year and tests indicate that the du Pont sponge is more durable than any other sponge on the market. It is felt that this improvement in quality coupled with measures taken to attain wider distribution should be effective in meeting competition and selling our 1950 productive capacity.

Export sales of sponges were approximately 3% of domestic sales in 1949. Export sales of competitors is believed to be negligible.

The decline in sales of natural sponges was caused by inability to move sponges imported from the Mediterranean area. In late 1948 and early 1949 large quantities of sponges were imported following the reduction of tariffs in 1948. By early Fall of 1949, the market was glutted with these sponges resulting in some being dumped at low prices. Natural sponges of fair size appeared in chain stores priced as low as 25¢. As the year ended, it appeared that the plentiful supply of cellulose sponges, combined with a growing acceptance of their use, had adversely affected the natural sponge market.

11342

CELLULOSE SPONGE YARN

Cellulose sponge yarn is produced for floor mops for both industrial and household use. It is manufactured by covering cotton yarn with fine pore sponge material. It has been demonstrated to be a superior wet mop yarn lasting two to three times longer than cotton. Cellulose sponge yarn mops are a new product having no competition, at present, except mops made of cotton yarn.

Du Pont started commercial production about the middle of 1948, and the sales for that year and 1949 were as follows:

	Pounds	Dollars
1948	346,000	295,000
1949	825,000	711,000

Sales of cotton yarn mop material are estimated at 30,000,000 pounds or $12,000.000 annually.

Sales of sponge yarns for the year 1950 are being forecasted at a rate of 1,465,000 pounds, and it is expected that these sales can be doubled by the end of another year.

M1342

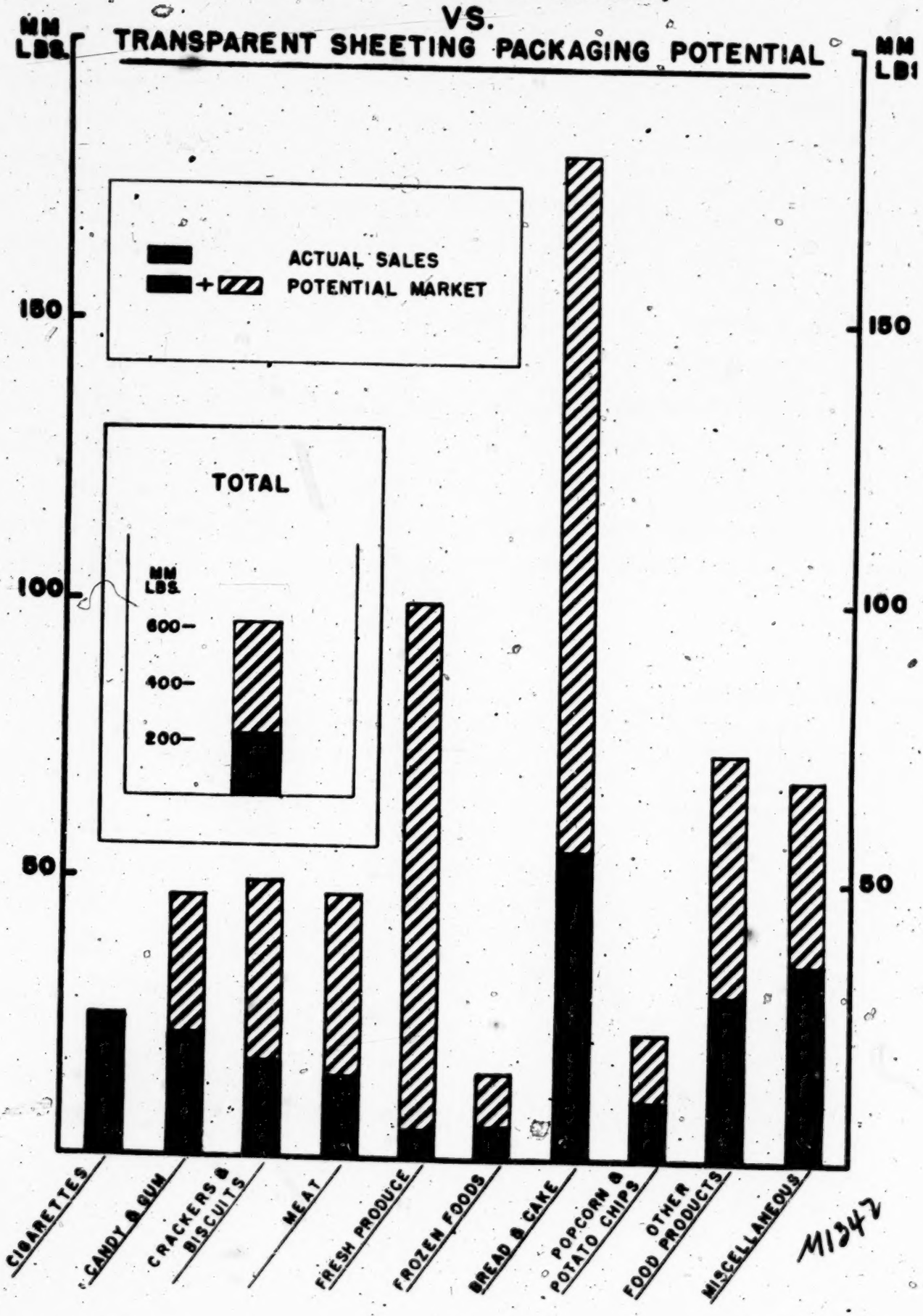
DU PONT CELLOPHANE SALES BY INDUSTRY
1949 VS. 1948

Industry	Millions of Pounds 1948	Millions of Pounds 1949	1949 As % of 1948
Tobacco Products			
Cigarettes	22.2	20.6	92.8
Cigars	3.1	3.2	103.2
Other Tobacco	1.4	1.6	114.3
Total	26.7	25.4	95.1
Food Products			
Candy & Gum	15.4	17.1	111.0
Bread & Cake	35.3	40.1	113.6
Crackers & Biscuits	11.4	12.6	110.5
Meat	6.5	11.6	178.5
Noodles & Macaroni	2.4	2.6	108.3
Tea & Coffee	1.2	1.4	116.7
Cereals	1.6	2.5	156.3
Fresh Produce	4.0	4.6	115.0
Frozen Foods	4.5	5.2	115.6
Nuts	2.7	2.9	107.4
Popcorn & Potato Chips	4.5	6.9	153.3
Unclassified	11.8	12.9	109.3
Total	101.3	120.4	118.9
Miscellaneous			
Hosiery	1.2	1.4	116.7
Textiles	2.3	3.1	134.8
Drugs	1.1	1.0	90.9
Rubber Goods	.5	0.3	60.0
Paper Products	2.0	2.7	135.0
Unclassified	19.0	18.7	98.4
Total	26.1	27.2	104.2
Total Domestic	154.1	173.0	112.3
Export	6.3	4.8	76.2
GRAND TOTAL	160.4	177.8	110.8

EXHIBIT A

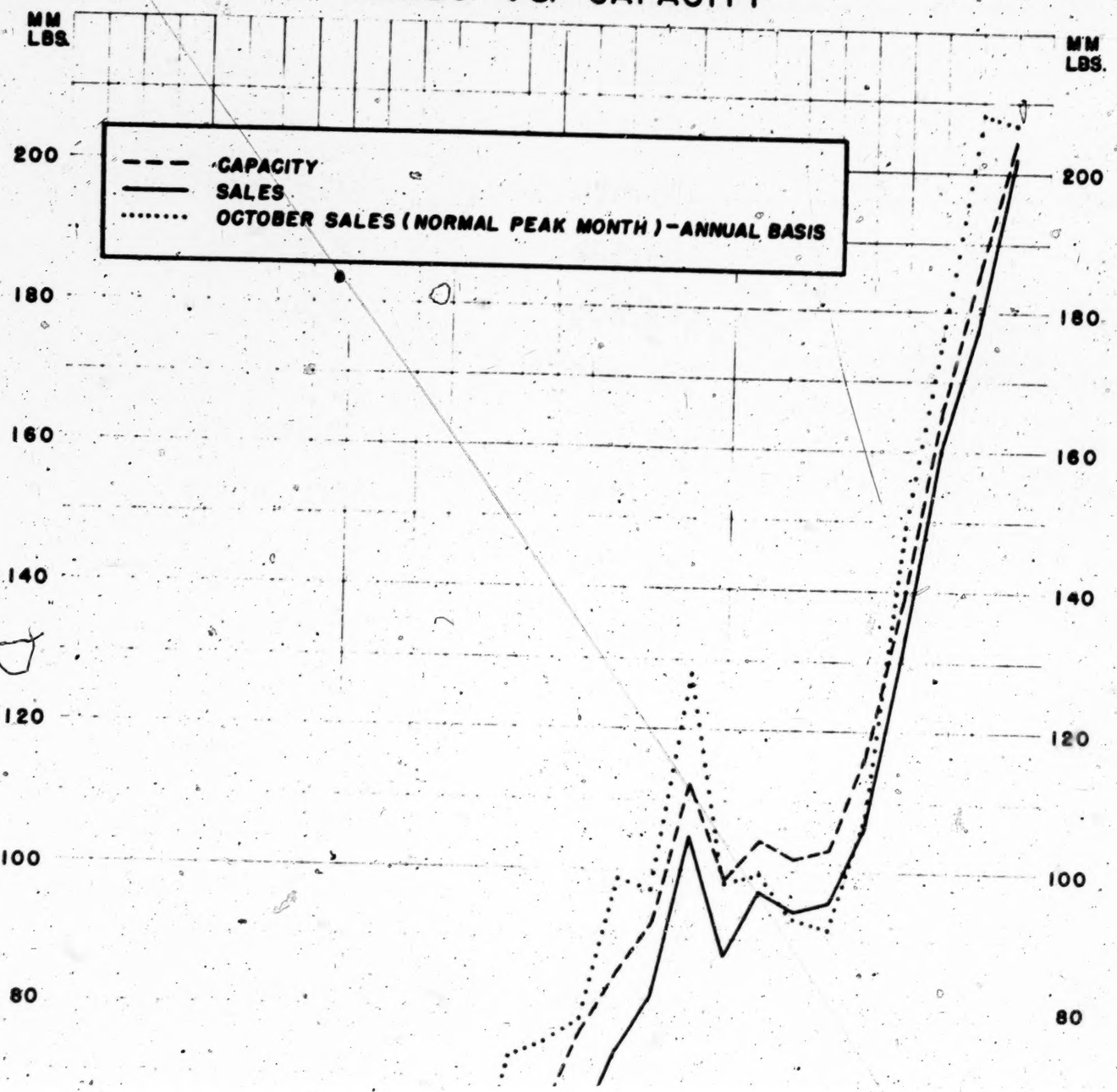
M1342

CELLOPHANE INDUSTRY SALES - 1949
(DUPONT PLUS SYLVANIA)
VS.
TRANSPARENT SHEETING PACKAGING POTENTIAL



Defendant's Exhibit No. 598

DU PONT CELLOPHANE
SALES VS. CAPACITY



Defendant's Exhibit No. 599

DU PONT CELLOPHANE

SALES DURING OCTOBER EACH YEAR 1924 THROUGH 1950

ACTUAL AND ON ANNUAL BASIS

POUNDS

	Actual	On Annual Basis
1924	65,455	785,460
1925	159,879	1,918,548
1926	189,522	2,274,264
1927	243,809	2,925,708
1928	382,230	4,586,760
1929	683,811	8,205,732
1930	1,502,137	18,025,644
1931	2,658,609	31,903,308
1932	2,869,105	34,429,260
1933	3,225,913	38,710,956
1934	3,748,742	44,984,904
1935	4,284,603	51,415,236
1936	6,076,674	72,920,088
1937	6,281,063	75,372,756
1938	6,557,036	78,684,432
1939	8,228,664	98,743,968
1940	8,084,546	97,014,552
1941	10,665,891	127,990,692
1942	8,176,526	98,118,312
1943	8,300,785	99,609,420
1944	7,750,095	93,001,140
1945	7,618,645	91,423,740
1946	9,016,343	108,196,116
1947	12,453,267	149,439,204
1948	14,837,733	178,052,796
1949	17,355,640	208,267,680
1950	17,225,475	206,705,700

Source: Records of Film Control Division,
E. I. du Pont de Nemours & Co.

Defendant's Exhibit No. 601

COMPARISON OF DU PONT AND SYLVANIA POTENTIAL CELLOPHANE PLANT CAPACITY AND ANNUAL RATES OF INCREASE

	Du Pont		Sylvania	
	Pounds	% Increase Or (Decrease) From Previous Year	Pounds	% Increase Or (Decrease) From Previous Year
1924	789,000			
1925	1,413,000	79.1		
1926	2,378,000	68.3		
1927	2,267,000	(4.7)		
1928	3,181,000	40.3		
1929	6,056,000	90.4		
1930	15,294,000	152.5	1,000,000	
1931	32,474,000	112.3	4,800,000	380.0
1932	36,770,000	13.2	9,300,000	93.8
1933	46,767,000	27.2	10,000,000	7.5
1934	58,204,000	24.5	12,900,000	29.0
1935	57,063,000	(2.0)	15,300,000	18.6
1936	59,914,000	5.0	20,000,000	30.7
1937	64,637,000	7.9	23,700,000	18.5
1938	76,504,000	18.4	26,400,000	11.4
1939	85,100,000	11.2	30,000,000	13.6
1940	92,350,000	8.5	30,000,000	-
1941	112,300,000	21.6	36,600,000	22.0
1942	98,715,000	(12.1)	36,600,000	-
1943	104,258,000	5.6	36,600,000	-
1944	101,730,000	(2.4)	36,600,000	-
1945	103,117,000	1.4	36,600,000	-
1946	116,163,000	12.7	36,600,000	-
1947	138,579,000	19.3	45,500,000	24.3
1948	165,673,000	19.6	47,000,000	3.3
1949	185,830,000	12.2	51,000,000	8.5
1950	204,500,000	10.0	63,500,000	24.5

Sources: Du Pont - 1924-1949 Gov't Exhibit No. 394; 1950 Records of Film Control Div. E.I. Du Pont De Nemours & Co.
Sylvania- 1930-1949 Gov't Exhibit No. 410; 1950 Records Sylvania Division, American Viscose Corp.

Defendant's Exhibit No. 602

DU PONT CELLOPHANE COMPANY

EXECUTIVE COMMITTEE

Meeting #18 (Regular Meeting) held at the office of the Company, Park Avenue Building, New York City, at 12.20 p.m. on Thursday, September 13, 1928.

PRESENT: L. A. Yerkes, in the Chair,
M. duPont Lee,
B. M. May,
Maxwell Moore,
C. W. Phellis.

APP'N. REQUEST DC-223 - PART 3-$530,000. -
PROPOSED CELLOPHANE CASTING MACHINES NOS. 7 & 8:

Letter was received from Mr. J. E. Hatt, General Manager Cellophane Department, dated September 11, 1928 (#156) transmitting the above mentioned Part 3 Request for $530,000. to cover the installation of Casting Machines Nos. 7 and 8. The following is quoted from Mr. Hatt's letter:

"During the first eight months of 1928 the sales were 1,852,919 pounds, compared with 1,136,160 pounds for the same period a year ago - an increase of 716,759 pounds or 63%. Should this rate of gain hold throughout the balance of this year, as seems likely based on the current volume of orders being received, the sales will approximate 3,600,000 pounds. We believe this total figure is a little high, because on account of lack of production, it may be difficult to maintain that percentage rate of growth over the peak months which we are now entering. We are figuring on a sales volume of 3,200,000 pounds for 1928.

"With the Sixth Machine in operation, which is now being constructed and which is expected to go into operation on November 1st, our productive capacity will then be 330,000 pounds per month, or 3,960,000 pounds per year.

"We shall, undoubtedly, show continued growth in 1929 on account of the widespread diffusion of Cellophane into an increasing number of industries, and while that growth may not be at as high a rate as the current percentage rate of growth, yet it should be noted that in the first half of 1928 the volume was slightly in excess of the latter half of 1927, and should this continue into the first half of 1929, it would mean that the first six months' sales of 1929 would approximate 3,000,000 pounds.

"Experience over the past four years has shown that but 40% of the total year's business, in tonnage, is done in the first six months, so that if these factors hold we can very easily approximate a tonnage of 5,000,000 pounds in 1929. Figuring our increase for 1929 at 50% instead of the 63% rate that we have made so far this year, in the belief that on the larger tonnage a smaller percentage will result, we should approximate in 1929 a tonnage of 4,800,000 pounds. To do this would mean that we should have to produce in the last six months of 1929, 2,800,000 pounds, or the maximum capacity of 8 machines.

M1112

"In addition to this we need, as has been previously expressed and approved by the Committee, at least a spare machine as a safeguard against difficulties with the older machines and to allow us potential capacity on which to solicit new and desirable business, some of which represents large volume.

"We sold in excess of our ability to produce both in July and August and will sell at even a greater rate in September. It is not at all unlikely that even with the Sixth Machine in operation we shall exceed our rated capacity to produce in at least a part of the months of September, October and November. Last year, the jump in the increased sales in one month over the preceding month came in the month of September in a jump of practically 50,000 pounds over the preceding month, August, so that we feel that if we maintain our percentage rate of growth over September of a year ago we shall have further grounds for belief that we will continue this rate of growth to the end of the year.

"For these reasons, therefore, the recommendation is made that the Seventh and Eighth Machines be installed at this time in Buffalo, and this recommendation is made with the thought that this addition will complete the No. 1 Plant at Buffalo, because the available ground for lateral expansion will have been consumed and also because operating practice is best when machines are operated in pairs, and we feel that any further expansion should be made in units of two machines and for this size unit there is not proper space available in connection with the present No. 1 Plant."

After discussion, it was moved and unanimously carried that Mr. Hatt's letter be filed and that recommendation be made to the Board of Directors to grant this Part 3 Request for $530,000. which will make a total of $565,000. under this Project, Part 1 for $15,000. covering Designs for Seventh and Eighth Casting Machines and Buildings, and Part 2 for $20,000. covering Chemical Building Addition, having been authorized by this Committee on September 6, 1928.

There being no further business to come before the meeting, it was, on Motion, adjourned at 1.00 p.m.

F. G. Hess
Secretary.

1.

APPROVED AS TO LEGALITY:

G. Dare Hopkins

APPROVED:

[illegible]

[illegible]

[illegible]

Marvin Moore

[illegible]

M1112

Defendant's Exhibit No. 603

DU PONT CELLOPHANE

Cellophane is the registered trade mark of Du Pont Cellophane Company, Inc. to designate its transparent cellulose sheets and films

DU PONT CELLOPHANE COMPANY, INC.

2 PARK AVENUE
NEW YORK CITY

March 17th, 1930.

TO THE EXECUTIVE COMMITTEE

FROM THE CELLOPHANE DEPARTMENT.

APP'N REQUEST ODC-14-1/2 $87,000
4th & 5th COATING TOWERS - MOISTUREPROOF CELLOPHANE - O.H.

146

Attached hereto, project ODC-14/½ for $87,000 covering the installation of two additional coating towers at Old Hickory.

In the regular course of developments, additional coating towers will be required at Old Hickory on account of the additional casting machines now being arranged for in plant #2 at Old Hickory, and this need for additional coating towers will probably precede the completion of these additional casting machines.

Our maximum capacity at present on Moistureproof production is 400,000 pounds per month, based on the complete operation of the six machines now installed. During February, Moistureproof orders reached a high point of 45% of the total orders received and up to the 14th of March, the March Moistureproof orders are equivalent to 43% of the total March orders. If we continue at this rate of receipt of Moistureproof orders, we shall need at least one of these towers by the time it can be installed, and it may be that even this installation will not enable us to keep pace with the Moistureproof orders.

Further, if the last six calendar months of the year bear the same ratio to the first six months as they have in previous years, namely: 50% greater in volume, we shall have full need of both of these towers in the latter half of this calendar year.

These proposed towers and equipment will be widened to accommodate the wider film we are now making and the still wider film which we anticipate to make with the newer units.

The addition of these coating towers will make necessary some revision in the present solvent recovery unit at Old Hickory,

M1117

DUPONT CELLOPHANE

DU PONT CELLOPHANE COMPANY, INC.

2 PARK AVENUE
NEW YORK CITY

--2--

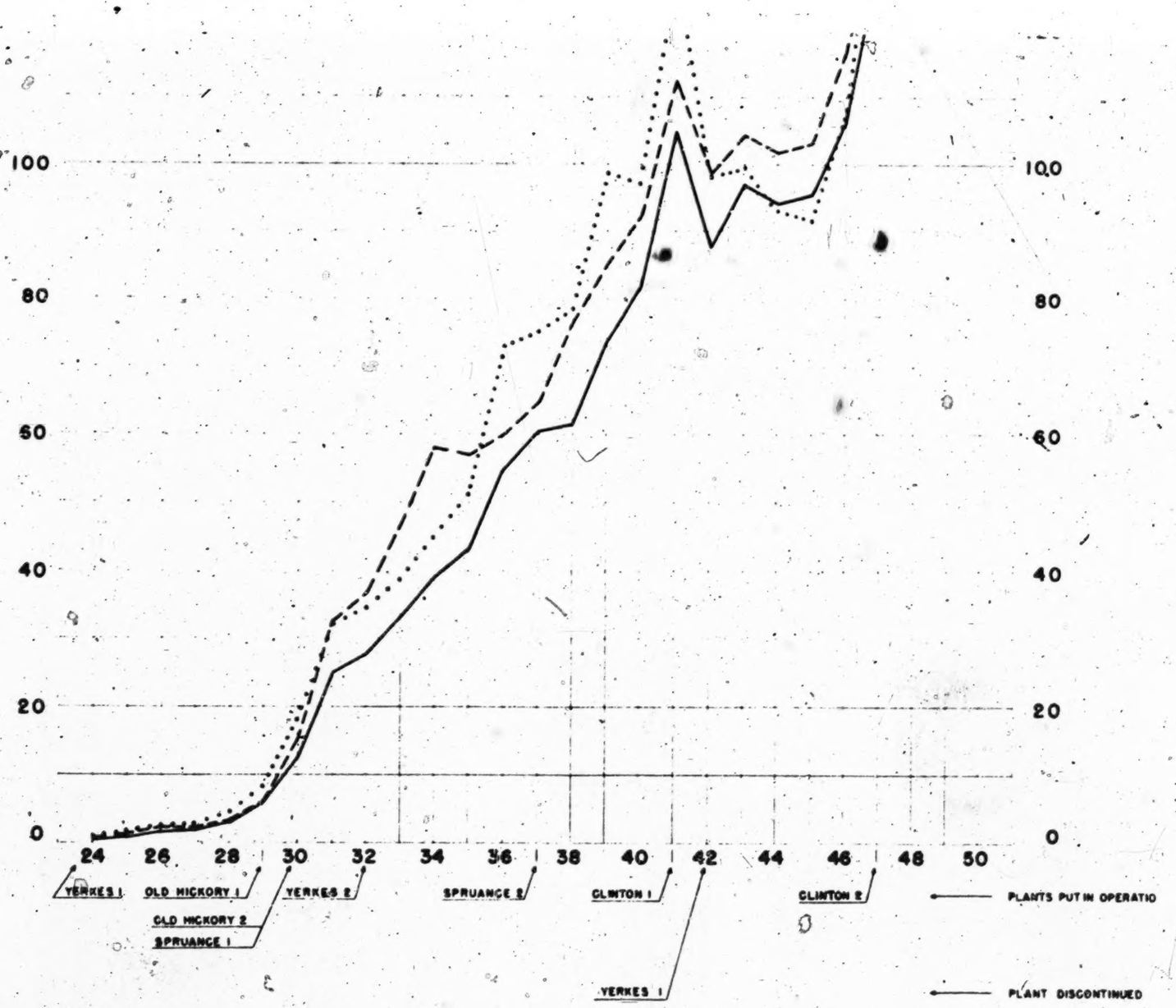
which is believed to be represented by the addition of one adsorber. This will probably represent, according to the Engineering Department's best estimate, an additional project of $35,000, which will be submitted as soon as the details can be determined and in order to avoid delays in coating tower erection this project is submitted without the solvent recovery revision to save time.

The project is recommended for approval.

J. E. HAIT

GENERAL MANAGER.

MHT



SOURCES:
SALES → -1924 THROUGH 1948 GOV'T. EXHIBIT NO.304; 1950 RECORDS OF FILM CONTROL DIVISION, E.I. DU PONT DE NEMOURS & CO.
CAPACITY → -1924 THROUGH 1949 GOV'T EXHIBIT NO.385; 1950 RECORDS OF FILM CONTROL DIVISION, E.I. DU PONT DE NEMOURS & CO.
OCTOBER SALES - 1950 RECORDS OF FILM CONTROL DIVISION, E.I. DU PONT DE NEMOURS & CO.

Defendant's Exhibit No. 60

Sheet 1 of 4

APPROPRIATION REQUEST

Date 4/3/30

OLD HICKORY CELLOPHANE #2 — Plant

Project No. ODC-7½ Pt. 5.

Request is made for $ $86,000.00 for account of | PLANT INCREASE $86,000.00 | DEPRECIATION $ | OPERATIONS $

Title CASTING MACHINES #5,6,7 and 8 - CELLOPHANE PLANT #2 - O.H.

Necessity and purpose of proposed work:

Various parts of project ODC-7½ have been submitted and authorized for .....$1,741,000.00.

This Part V herewith requested..... $86,000.00

TOTAL..... $2,627,000.00

Investigation is under way for preparation of projects for -

(1) Rayon Power House additions

(2) Additional houses in Village.

Not included in Construction Forecast of April 1, 1930.

Estimate Cost

Material Refer to attached estimate by Engineering Division of du Pont Company.

Freight

Stores

Labor (Assembling and Installation)

Labor (dismantling)

Contingencies

Total $86,000.00

Estimated monthly Expenditures given in att'd.

To be commenced when authorized

To be completed given in att'd.

Prepared by H. A. CRAIGUE

Approved

Eng. Div.

Authorized:

Charge all expenditures to:

Plant Increase
Old Hickory
Cellophane Plant #2.

Treasurer's Dept.

Enclosures

aqo;mlb Sheet No. 1 of

M1381

ODC-71
Pt. V.

Explanation Project No.

REASONS FOR MAKING THIS EXPENDITURE

Facilities and to what extent they are inadequate

(1) Sales trend indicate the production facilities herewith requested will be needed during the fall and winter months.

(2) Present facilities consist of: 8 casting machines Buffalo
8 casting machines O.H. Plt. 1
4 casting machines under construction for Plant 2.

Known loss per annum (if any) under present conditions $

Description of [illegible] the following additional equipment:-

Chemical Building -	6	stamping presses
	5	shredders
	1326	ripening cans
	6	baratting
	5	mixers
Viscose Ripening Room -	22	tanks
Casting Machines -	4	
Finishing Room	4	cutters, 4 slitters and miscellaneous tables, trucks, etc.
Miscellaneous -		Outside storage, 3 caustic and 1 acid tanks, change room equipment, bath tank and lines, and spare part

Additional Facilities and output gained by this expenditure

5. Estimated savings per annum by making this expenditure, including (2) $

6. REMARKS (should cover reduction in labor, gain in safety or other reasons not given above)

Note - No building work contemplated in this project. Previous projects authorized for 5 casting machine buildings and 4 casting machines equipment.

1.1381

Savings estimated by HAC:MLB

SD) _____

SD) _____

ESTIMATED MONTHLY EXPENDITURES

1930	May	$ 15,000
	June	50,000
	July	75,000
	August	125,000
	September	150,000
	October	200,000
	November	150,000
	December	100,000
1931	January	21,000
	TOTAL	886,000

SCHEDULE OF COMPLETION

#5 Casting Machine	November 1, 1930
#6 " "	November 15, 1930
#7 " "	December 1, 1930
#8 " "	December 15, 1930

M 1381

EJD:MLB

ESTIMATE
4 CASTING MACHINE EQUIPMENT
OLD HICKORY CELLOPHANE
PLANT 2

Equipment

Chemical Building	$ 134,000
Viscose Ripening	89,750
Coagulating Bath	10,000
Outside Storage	7,000
Casting Machines	607,500
Finishing Area	99,600
Change Room	1,400
Miscellaneous - spare parts - starting up plant	7,000
Engineering Supervision	10,950
Design	18,000
TOTAL	$ 886,000

Projects for Power and Village additions to be submitted.

WAG:MLB

1-11381

Defendant's Exhibit No. 6054

APPROPRIATION REQUEST — Sheet 1 of 5
date 4/23/30

RICHMOND CELLOPHANE PLANT #1

Project No. RDC-1½

Request is made for $ 3,119,000 for account of

PLANT INCREASE $ 3,119,000
Depreciation $
Operations $

Title EIGHT CASTING MACHINE PLANT - RICHMOND (Wilm. Proj. #14910)

Authorized by Fin.Comm.
May 19, 1930
M.D. Fisher, Secy.

Necessity and purpose of proposed work:

This project is submitted for authorization to install an eight casting casting plant for the manufacture of Cellophane at Richmond, Va.

It is the plan to locate and design this proposed Cellophane Plant, so that later if it is found necessary it can be readily expanded to a 16 machine unit.

In addition sufficient property is being purchased so that another 16 machine plant can be built at some future time near the plant as covered by this project. So the site as selected is large enough for two - 16 machine plants.

Not included in Construction Forecast of April 1, 1930

Approved by Cellophane Ex. Com. 4/30/30
Cellophane Board of Directors 5/8/30 /s/ M.D. Fisher Secy.

Estimate Cost
Material Refer to attached
Freight
Stores
Labor (Assembling and Installation)
Labor (dismantling)
Contingencies

Total $3,119,000

To be commenced design started

To be completed as per attached schedule

Prepared by M. A. Craigue

Approved E.K. Gladding
Eng. Div.
J. E. Hatt

AUTHORIZED:

Charge all expenditures to

Plant Increase

RICHMOND CELLOPHANE PLANT #1

Treasurer's Dept.

Estimated monthly Expenditures Refer to attached

Enclosures

MAC:VA:GM sheet no. 1 of 5

M1383

(COPY OF ILLEGIBLE TEXTUAL MATERIAL)

RDC-1½
4/23/30

REASONS FOR MAKING THIS EXPENDITURE

1. Present Facilities and to what extent they are inadequate

During the past several years construction work on casting machines has not been of sufficient magnitude, in order to keep ahead of the very rapid and unexpected increase of sales of Cellophane.

3. Description of proposed work.

1. To install an eight casting machine plant with auxiliaries and moistureproof facilities which are as follows:-

(a) Eight casting machines with 82" hoppers for the manufacture of wide film. Casting machines and room patterned after after Old Hickory Cellophane Plant #2.

(b) Chemical Building equipment

Steeping Presses	-	12
High Speed Shredders	-	11
Ripening Cans (Small)	-	3000
Barattes	-	12
Mixers	-	11
Blenders	-	2
Viscose Ripening Tanks	-	44 (4 mixers charges each)

(c) Finishing Area

Cutters	-	7
Slitters	-	8

Miscellaneous Drums, tables, racks and trucks.

(d) Type of buildings.

The proposed Richmond Cellophane plant will be patterned after the best features of Plant I and Plant II, Old Hickory. These are:-

(1) Central bath systems with space for equipment for 16 casting machines.
(2) Less expensive structural steel chemical building instead of re-enforced concrete type.
(3) Simplified design of viscose ripening room resulting in decreased construction cost.
(4) Short fume stack of protected metal.

Moistureproof Facilities

5 Coating towers located in one building with redesigned arrangement of auxiliaries. Object, to reduce installation cost and reduce operating expense.

NAC:VA:GM

(COPY OF ILLEGIBLE TEXTUAL MATERIAL)

Moistureproof Facilities (continued)

--ent Recovery.

4 adsorber unit using 60 minute carbon and rectification equipment to suit.

Mixing equipment - suitable for 5 coating towers on two-shift basis. Patterned after standard installation at Buffalo and Old Hickory.

GENERAL

Design Basis

With the schedule as given herewith, construction work should start June 15, 1930. In order to start construction at this time, it is necessary to use drawings of buildings and equipment of Old Hickory Cellophane Plants #1 and #2. These drawings to be adapted to the Richmond location.

Cost of providing for an additional 8 machines

As mentioned, this proposed 8-machine plant is to be so located and the design basis is such that an additional 8 casting machines can be readily added at some future time, thus making a 16-machine plant.

For providing power lines and sewer facilities of sufficient size for 16 casting machines, it is roughly estimated that $20,000 more will be required which if added to $75,000, as outside line cost will be $95,000 for outside lines of sufficient size of a 16-machine plant. So if this $20,000 is spent for larger lines during the construction of the first eight machines there will be saved on the construction of the second eight, about $75,000.

This consideration is exclusive of fire lines and electric lines for these are not affected. The cost is included in the amount requested.

Additional facilities and output gained by this expenditure

Production facilities of normal Cellophane of 6,600,000 pounds per year. Of this amount, 5,100,000 pounds to be Moisture-proof Cellophane.

NAC:VA:MLB

M1383

(COPY OF ILLEGIBLE TEXTUAL MATERIAL)

RDC-1½
4/23/30

ESTIMATE OF COST

	1st 8 Casting Mach.	2nd 8 Casting Mach.	Total 16 Cast. Machs.
Casting Machine Plant	$ 2,750,000	$ 2,600,000	$ 5,350,000
Solvent Recovery 5 & 4 coating towers	(5) 130,000	(4) 100,000	(9) 230,000
Coating Solution Storage and mixing plant	(5) 44,000	(4) -	(9) 44,000
5 Coating Towers (9for 16 C.M.)	(5) 195,000	(4) 160,000	(9) 355,000
Total	3,119,000	2,860,000	5,979,000
Power	170,000	566,000	736,000
Total	$ 3,289,000	$ 3,426,000	$ 6,715,000
Property Purchase 10 acres at $250 (?)	2,500		2,500
	$ 3,291,500		$ 6,717,500

(1) Above estimates based on construction costs both complete and pending at Old Hickory.

(2) Projects to be submitted on

Power Additions $170,000
Property purch. " 2,500(?)
" transfer from Rayon to Cellophane Co.

4383

MAC:VA:GM

(COPY OF ILLEGIBLE TEXTUAL MATERIAL)

RDC-1½
4/23/30

ESTIMATED RATE OF EXPENDITURES

Up to and including	June - 1930	$45,000
	July "	140,000
	Aug. "	220,000
	Sept. "	400,000
	Oct. "	575,000
	Nov. "	540,000
	Dec. "	440,000
	Jan. 1931	350,000
	Feb. "	220,000
	Mar. "	125,000
	April "	64,000
		3,119,000

Schedule

Start Construction #1 Casting Machine	June 15th - 1930
#2 " "	Dec. 1st - 1930
#3 " "	Dec. 15th - 1930
#4 " "	Jan. 1st - 1931
#5 " "	Jan. 15th - 1931
#6 " "	Feb. 1st - 1931
#7 " "	Feb. 15th - 1931
#8 " "	Mar. 1st - 1931
	Mar. 15th - 1931

NAC:VA:GM

41383

- 5 -

Defendant's Exhibit No. 606

March 11th, 1931.

TO: THE EXECUTIVE COMMITTEE

FROM: THE CELLOPHANE DEPARTMENT.

CELLOPHANE PRODUCTIVE CAPACITY

We have just completed a detailed review of our productive capacity for the current year, having in mind the carrying out of a detailed program in relation to improvement in production and improvements of quality, and based on the program of machine alterations in the way of dryer modification, the heightening of coating towers to provide for greater coating speed, and also the experiments underway in connection with drums in the wet end of the casting machines and further development of the use of cotton linters in Cellophane, we shall have, beginning during April, available production at the rate of 2,400,000 pounds per month. Of this amount, with the present capacities 1,800,000 pounds can be produced in Moistureproof and 600,000 pounds in plain transparent Cellophane.

With improvements to the towers mentioned above, we shall be able to increase the percentage of Moistureproof production of this volume of total material cast, to a ratio of 75% Moistureproof, if necessary. The present rate of sale of Regular, however, does not seem to require production of Moistureproof at this rate.

Such production will give us for the nine months forward from April first, a total production of 21,600,000 pounds during the calendar year, 1931. During the first three months, we will have sold 5,000,000 pounds and will have on hand a stock approximating 2,000,000 pounds of which we could probably sell, if volume demanded, approximately 1,400,000 pounds. So that we see in sight now for 1931 production and sale, a total quantity of 28,000,000 pounds.

With the present equipment and with the rate of development of improvements in process and the modification of the machines accomplished during this year, we look forward to somewhat increased productive capacity from this same equipment for 1932.

We believe that during the calendar year, 1932, with the completion during this year, 1931, of the changes we have in mind, we will be able to step this production up to a total of 31 or 32,000,000 pounds if we are successful in increasing speed, improving our efficiency, increasing the percentage of yields, etc., as we anticipate, based on the problems on which we are now working. Of this amount, we can probably produce 21 to 22,000,000 pounds in Moistureproof form and the balance of 10 to 11,000,000 pounds or more, in plain transparent material, as required.

Our sales during the first quarter of this year will approximate five million pounds. The first quarter in 1929 and 1930, respectively, was 17.3% and 17.0% of each of these year's volumes. Figuring our first quarter this year on a basis of 17.0% - this indicates an estimated 1931 tonnage of 29,000,000 pounds which is just slightly in excess of the estimated quantities available above, but if found necessary in the latter months of the year, can probably be secured by a curtailment of some of the machine activities proposed during the current year

M-85

Our rate of gain for the first two months is 148% over the same period, 1930 and if this rate of gain should be continued for the twelve months' period of 1931, we would be called upon to supply in excess of 31,000,000 pounds and we believe we will not be able to produce this amount out of the present equipment during this calendar year.

We do not as yet know what the March first price decline will do to our current volume, but if it reflects anything like the percentage of volume of increase that similar substantial price declines have reflected, this may at least maintain the percentage rate of gain of the first two months of this year, and might conceivably tend to increase that percentage.

Our #2 forecast which will shortly be made, will probably approximate 22 or 27,000,000 pounds, and the latter half of this may be subject to revision upward later as it becomes more evident what the effect of the price decline may be on volume.

If we attain our forecast and approximate the volume set forward as being the maximum volume for this calendar year, we shall find ourselves going into 1932 with a volume of sales equal to or in excess of current capacity, and with the necessity of having provided prior to that time, further additional capacity, as the situation seems to warrant. It is unlikely that we will have reached at the end of this year, a stabilized position as to size where our rate of growth is nominal, and we are perhaps, justified in figuring that even against the volume of 28,000,000 pounds estimated for this year, we may be showing an increase in the early months of 1932, approximating 50% and it conceivably could be a greater percentage than this amount.

The problem of further capacity, therefore, may be based on what it is that we will require in excess of the 32,000,000 pounds maximum capacity in 1932, and if it is determined that it appears reasonable that the sales requirements will be sufficiently greater than this amount, to warrant consideration at this time, it might be desirable to begin such program promptly having in mind the possibility of the utilization of a part of this additional capacity during the coming Fall should our rate of growth continue to hold at the present level and require more material than our current capacities will give us.

It seems entirely logical, therefore, to suggest the consideration of an additional eight-casting machine unit with the necessary coating towers, solvent recovery, etc., to be installed in the present #1 Rayon plant at Buffalo, to give us an added estimated capacity of 7-1/2 to 8,000,000 pounds per year. If this were underway, it would provide for 25% increase in production in 1932 over our present estimated capacity for that time, and it might conceivably be developed that the production from two or more of these machines might be made available in the peak months of this Fall, should demand require it.

With this underway, should the volume mentioned develop, and our sales for 1931 approximate 30,000,000 pounds, it is conceivable that we might later in this year, submit to the Committee, recommendation for a further additional eight-machine unit to be added to the present Spruance plant, and contemplating a still further additional production available in 1932 of another eight million pounds or a total maximum estimated capacity of 48,000,000 pounds. With the present volume, we are not of course, justified in suggesting the necessity for this at this time, but if we maintain the current rate of gain in excess of 140% consistently thru 1931 and approximate the 30,000,000 pound figure estimated above, it would require no great stretch of the imagination to see a 50 or 60% increase of that volume during the ensuing year which would call for the 48,000,000 pound capacity indicated from themaximum operation of these two plants.

It seems advisable, therefore, to suggest to the Committee, the definite consideration of an additional eight-machine Cellophane unit to be put in the #1 Rayon plant at Buffalo.

The detailed figures are not available because a high-spot estimate is now being prepared on this design study of the utilization of that plant, but a rough figure indicates that this will require new money outlay approximating $2,500,000, plus the transfer of the depreciated value of that plant from the Viscose Process to the Cellophane Department.

Such figure contemplates what power additions and revisions are necessary to make power available at Buffalo for this Cellophane plant but does not include the consideration of the broad study of the power situation at Buffalo, looking to the installation of additional equipment there for the generation of power by turbine and the use of exhaust steam. Such revision, however, if carried out, would be on the basis of justifying the investment in these revised power facilities and would be separate and distinct from any Cellophane project for construction as such.

If the Committee agrees with the conclusions of this advice relative to the possibility of further capacities, advice to that effect would be appreciated and the necessary projects will be presented in regular form shortly.

Preliminary investigations of the design and estimated high-spot cost of the conversion of the #1 Rayon unit, have been requested of the Engineering Department.

J. E. HART

GENERAL MANAGER

M-85

-3-

Defendant's Exhibit No. 607

cc Mr. Yerkes-Mr. May
Mr. Hatt
Mr. Thayer

May 12th, 1931.

MR. R. D. MOORE
CHIEF ENGINEER
BUFFALO

CONSTRUCTION SCHEDULE
BUFFALO CELLOPHANE PLANT #2

At a meeting held this morning in Mr. Yerkes' office with Messrs. Yerkes, May, Hatt and the writer present, it was decided to limit the construction of new casting machines for the time being, to four, provided that the old Rayon Chemical Building will produce sufficient viscose for this number of machines and the Cellulose Caps operation.

Decision as to the time of construction of additional casting machines authorized in the project, together with the Chemical Building and other equipment, will bemade at a future date.

This decision was arrived at because the Operating Department have demonstrated the possibility of a greater net production per casting machine than previously experienced and because sales subsequent to March do not indicate as great an increase over last year's sales as indicated by March figures.

It is essential to carry out this program in such a manner as to incorporate in the new plant, our latest proven equipment developments, and at the same time secure lowest possible construction cost.

After you have discussed this change in program with Wilmington, we expect you to provide us with a forecast of actual expenditures made at this time against the approved project and also the dates on which the four machines will be ready for production.

T. L. HINES

ASS'T GENERAL MANAGER

M1385

Defendant's Exhibit No. 608

July 6, 1933.

Mr. H.B. Lee, General Manager,
Technical Department,
BUFFALO OFFICE.

Dear Maurice:

You have a project at Buffalo for a special #1 bath tank to be installed in one of the Cellophane Plants (I don't remember whether it is #1 or #2) for the purpose of determining bath conditions at speeds of casting higher than 41 meters.

In view of the necessity of our establishing as soon as possible (in fact almost immediately) the exact capacity of a Cellophane casting machine, I would be glad if you would tell me the status of this project and if you also would urge that the work be pushed with the greatest possible rapidity.

The Cellophane sales are increasing in such a manner that within a few months we shall have to decide whether to build more Cellophane capacity and this of course is entirely dependent on the speed that we can get out of our present machines.

Yours very truly,

LAY-ML

PRESIDENT.

Defendant's Exhibit No. 609

cc: MESSRS. T. L. HINES
C. M. SWITZER

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
EMPIRE STATE BUILDING
NEW YORK, N. Y.

"CELLOPHANE" DIVISION

December 30, 1936

MR. J. E. HATT, MANAGER
"CELLOPHANE" DIVISION
NEW YORK

The comparison which follows compares sales by months of 1936 with 1935. These statistics show increased volume of 26.3% over last year as compared with an increase of 11% in 1935 over 1934:

161

	1935	1936	% Increase	% Incr. 1935 Over 1934
January	2,934,228	3,623,728	23.5	7.5
February	3,286,107	3,729,000	13.5	11.9
March	3,858,268	4,176,760	8.3	8.4
April	3,493,714	4,038,082	15.6	8.4
May	3,406,786	4,071,611	19.5	12.0
June	3,674,712	4,423,892	20.4	10.0
July	3,813,135	4,109,392	24.0	1.7
August	3,825,396	5,282,850	38.1	13.5
September	4,047,740	5,330,429	31.7	10.5
October	4,284,603	6,076,673	41.8	14.5
November	3,988,036	5,445,939	36.6	15.5
December	3,814,782	4,560,000*	37.6	18.8
TOTAL	43,427,449	54,868,356	26.3	11.0

*Subject to minor correction.

If the 1936 overall increase of 26.3% will also represent the 1937 increase, the sales volume for next year will be 69,300,000 pounds. Assuming the 37.8% increase of the past five months as more representative of the trend to be expected in 1937, it will find us swamped with 75,800,000 pounds.

M-115

"Cellophane" is a registered trade mark and should be spelled with a capital "C" or enclosed in quotation marks

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
EMPIRE STATE BUILDING
NEW YORK, N. Y.

"CELLOPHANE" DIVISION

continued

Sales by percentage for each month of the past four years and the average is as follows:

	1933	1934	1935	1936	Average Past 4 Years
January	6.8	7.0	6.8	6.6	6.8
February	6.9	7.5	7.6	6.8	7.2
March	7.0	9.1	8.9	7.6	8.2
April	7.7	8.2	8.0	7.3	7.8
May	8.2	7.8	7.8	7.4	7.8
June	9.7	8.5	8.5	7.5	8.5
July	9.7	8.3	7.6	8.1	8.4
August	9.2	8.6	8.8	9.6	9.2
September	10.0	9.4	9.3	9.7	9.8
October	9.7	9.6	9.9	11.1	10.1
November	8.6	8.9	9.2	10.0	9.2
December	5.8	7.1	7.6	8.3	7.2
	100.0	100.0	100.0	100.0	100.0

Due to the heavy volume in the last half of 1936 the percentage factors changed considerably this year over the previous years. It will be noted that the 1936 percentages for the first seven months of the year are lower than average, with only 43.2% of the total year's business transacted during the first six months.

Our manufacturing capacity for 1937 allowing for Spruance #2 as scheduled and an overhaul for each of the present casting machines excluding B.C.#1 should be 71,410,000 pounds with the peak month of production next October of 6,960,000 pounds with all forty-eight machines operating. Several other months will be extremely close and it will require skilful management to successfully operate our available equipment at 100% capacity and at the same time give satisfactory service to the trade - but that is exactly what we will be up against all thru the year if our percentage of increase over 1936 is as high as 1936 vs. 1935.

If the present trend of 37% continues throughout 1937 our troubles will commence almost immediately, and during the entire year with the exception of the first and last months we will have to decline business. The shortage each month on this basis would be:

A1-115

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INCORPORATED
EMPIRE STATE BUILDING
NEW YORK, N. Y.

"CELLOPHANE" DIVISION

Reflecting full process capacity as presented at Syracuse

concluded

January	O.K.
February	310,000
March	400,000
April	440,000
May	100,000
June	800,000 — ?
July	65,000
August	375,000 ok
September	680,000 ok.
October	640,000 ok.
November	280,000 O.K.
December	O.K.

Admittedly this sounds too optimistic and is perhaps away beyond our ability to extend the market for "Cellophane", but stranger things have happened and before the end of the year we may wish many times that we had 12 casting machines coming into production rather than 8.

O. E. [illegible]
MANAGER, PLANNING SECTION

CEA:mmk

P1.115

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Defendant's Exhibit No. 610

E. I. du PONT de NEMOURS & COMPANY

RAYON DEPARTMENT

Wilmington, Delaware.
April 19, 1938.

TO: EXECUTIVE COMMITTEE.

FROM: L. A. YERKES, GENERAL MANAGER,
RAYON DEPARTMENT.

PROJECT NO. 2102 - $6,000,000. - CLINTON, IOWA, "CELLOPHANE" PLANT:

173

Under date of January 19th the following action was taken by the Committee:

"Mr. L. A. Yerkes, General Manager, Rayon Department, brought up the above subject by referring to the Committee's action of December 22, 1937, at which time it was the feeling of the Committee that the construction of the Clinton Iowa, "Cellophane" plant should be proceeded with in time to have the capacity available by the fall of 1939. Mr. Yerkes orally reported that on the basis of the present forecast of sales it appears that the Clinton Plant will not be needed in the fall of 1939 and he recommended that work on the plant be deferred pending completion of further studies which are being made.

"After discussion, it was moved and unanimously carried that the action of December 22, 1937 be rescinded, with the understanding that Mr. Yerkes will again bring the matter to the attention of the Executive Committee if conditions change between this time and April 1, 1938."

In the middle of 1937 when the Clinton project was first approved, the "Cellophane" sales forecasts were as follows:

1937	67,000,000 lbs.	(60,500,000 lbs. actual)
1938	77,000,000 "	(64,000,000 " revised forecast)
1939	87,000,000 "	(71,000,000 " " ")
1940	98,000,000 "	(77,000,000 " " ")

We have also revised upward our forecast capacity on the present 48 casting machines to the following figures:

1938	76,000,000 lbs.
1939	87,000,000 "
1940	96,000,000 "

These figures may perhaps be optimistic as they are based on increased speeds which have not yet been satisfactorily obtained. We feel, however, that they are approximately accurate.

On this basis we see no necessity of proceeding at Clinton at this time and therefore recommend that this project be cancelled. We have spent to-date approximately $100,000. of which $66,000. was for the purchase of the land.

Please read this in connection with Development Department's report, Serial No. D-1059, dated April 7, 1938, headed "Buffalo Plant Problem", which we transmitted to you with our letter of April 18, 1938.

L. A. Yerkes,
GENERAL MANAGER.

14-55

LAY-ML
2.

Defendant's Exhibit No. 611

3017

cc: Mr. J.F. McCune
Mr. J.E. Hatt-Mr. C.H. Switzer
Mr. O.F. Benz-Mr. C.F. Brown-
Mr. A.F. Wendler

June 1, 1938

MR. E.O. THAYER
"CELLOPHANE" RESEARCH
BUFFALO

INCREASED PRODUCTION CAPACITY

While in Old Hickory last week I discussed with Mr. McCune the Management's viewpoint in regard to required additional capacity and that our plans should provide for an increased volume of 500,000 pounds per month. This additional capacity should be available not later than mid-summer of 1939. To accomplish this it is necessary to have a very definite schedule for the completion of all studies needed to intelligently provide this increase in capacity. Because of Management decision to defer the construction of a new plant, we find ourselves definitely limited to providing the additional capacity at present plant locations.

In reading the Minutes of the meeting of the Sales-Operating Committee held on May 19, I note Mr. Hatt's comment in which he says that under no condition must the quality of film produced be sacrificed.

I am convinced that there is too much of an attitude in both Technical and Production Divisions, that present quality is the acceptable standard and the reason for this letter is to ask your fullest cooperation in impressing upon all of your men that present quality is not satisfactory, particularly when we are planning for production two years hence.

Only yesterday morning Mr. Wendler discussed with me a customer's complaint in regard to the pull-out on colored film. Of course there are numerous other instances constantly coming to our attention which indicate more and more that as we expand and develop the use of our product, quality standard must be improved.

M-155

Referring again to the Sales-Operating Committee Minutes, the statement is made that 50 m.p.m. two tank sizing film is equal in sticking resistance to 30 m.p.m. production. The point here is that all of our plants and our Technical Division men must have in mind that the present quality of our product is not satisfactory when we are speaking of the required quality standards for the years 1939 and 1940. What are we doing to improve the quality of 30 meter production in this respect?

On the date of May 23 Mr. McCune addressed a letter to Mr. Switzer to which he attached a tabulation showing a potential capacity from our present plants of 105,000,000 pounds annually. While such figures may be and probably are ultimately attainable, we are today certainly not in a position to be considering such a rate of operation. And to me the very interjection of such figures is indicative of a lack of appreciation of the immediate problem that faces us over the next two years. Fortunately Mr. McCune and I believe we can produce from our present plants as much as 8,000,000 pounds in a peak month and not use any casting speeds greater than 60 meters. How we propose to do this has been outlined by Mr. McCune in a letter to Mr. Nelson.

These plans would provide 250,000 pounds more production at Buffalo by securing viscose from Rayon and an additional 250,000 pounds by installing more viscose capacity at Old Hickory to permit casting speeds of approximately 55 meters. If these steps prove practical we are then fortunately in the position of not having to consider speeds above 60 meters at the immediate moment and can therefore devote our major attention to bringing about the required improvement in quality of these speeds. If No. 16 machine at Buffalo is able to demonstrate an improved quality within the next three months we can consider further volume increases through higher speed casting.

It is hardly necessary here to enumerate the particular physical characteristics that are most in need of improvement but by copy of this letter which is going to Messrs. Benz, Brown and Wendler, we are requesting them to forward to Mr. Switzer as Chairman of the Sales-Operating Committee their viewpoints as to the most desired quality improvements. After receipt of this Sales viewpoint, we request Mr. Switzer to pass on to you his viewpoints in regard to this subject, with copy to Mr. McCune as Chairman of the Plant Expansion Committee.

M-165

In closing I want to again emphasize that it would be a great mistake for us to plan on producing film in 1939 and 1940 and did not have in mind the necessity of constantly improving the quality of our product. Every successful industrial organization in the country fully realizes each year that the demands from their customers are for a product better than that supplied previously.

T.L. HINES

ASS'T. DIVISION MANAGER

TLH:G

FILE COPY
M-155

Defendant's Exhibit No. 613

PRODUCTIVITY OF FIXED INVESTMENT
CELLOPHANE DIVISION (CELLOPHANE ONLY)

Permanent investment in Cellophane production facilities in 1934 at the end of the first ten years' operation was .4016 per pound of capacity. This investment was reduced to .3128 per pound of capacity by 1944, a reduction of 22.4%. During this ten-year period, capacity was increased 79.1% and the pounds of capacity per dollar of investment was increased 28.5%.

	Fixed Investment	Capacity
1934	$23,374,805	58,204,000
1943	*32,615,349	104,258,000
Increase	35.9%	79.1%

	Investment per pound of Capacity	Pounds of Capacity per Dollar of Investment
1934	.4016	2.49
1943	.3128	3.20
Change	-22.4%	+28.5%

* Investment in Buffalo Plant #1 eliminated due to conversion for Cordura production.

The above investment and capacity figures represent Cellophane film production facilities only. Investment shown represents permanent investment as of the end of the year. Capacity is the average for the year summarized from the monthly statistical reports.

The increase in productive capacity per dollar of investment resulted from numerous chemical and mechanical improvements. These improvements permitted shorter processing cycles and higher operating speeds on existing equipment, which was primarily responsible for increased production.

A brief outline of a few of the more important improvements follows:

Wood pulp having a lower viscosity was developed in conjunction with the pulp manufacturers for use in the production of cellophane. The new pulp improved viscose filtration and decreased aging time substantially.

Shredder design and mixing equipment were improved, thus reducing the processing time in these operations.

M 270 A

Casting machine speeds were increased 40 - 60%. These increased speeds were made possible by the improved filtration mentioned above, counter current washing and bleaching treatment and improved wet-end rolls.

Illium was substituted for nickel in the extrusion hoppers, resulting in reduced film streaks, film breaks, hopper reconditioning and waste. The hopper width was also increased about 10%.

Conditioner units were designed and installed for the production of uncoated film, which permitted production of a flatter sheet with lower waste.

Coating tower speed was increased 50 - 70%, depending upon type. Improved tower design and more uniform application of coating lacquers through the use of doctor rolls made the increased speed possible.

Slitting machine speed was increased from 325 feet per minute to 710 feet per minute through the design of heavier and better balanced equipment.

While productivity of equipment increased, the quality of our product has been improved. Waste was reduced from 8.8% to 4%. The combination of these various conditions makes it possible today to produce our current capacity with a fixed investment of $9,258,000 less than would have been necessary in 1934.

M270 A

Defendant's Exhibit No. 614

E. I. DU PONT DE NEMOURS & COMPANY

CELLOPHANE DIVISION

CC: H. J. White
J. E. Hatt
R. L. Richards-J. F. McCune
C. A. Haley
O. W. Gay

Wilmington, Delaware
October 31, 1944

MR. L. A. YERKES
MR. B. M. MAY

CELLOPHANE EXPANSION
ADDITIONAL CAPACITY AT BUFFALO VS. CLINTON

Mr. Gay's office has supplied us with estimates of the cost of converting Buffalo Plant 1 back to a Cellophane plant, and with this Mr. Haley has prepared a comparison of cost and profit, together with forecasted return on investment figures, copy of which is attached hereto.

We should note particularly that the new money required at Buffalo is estimated as $5,200,000 and at Clinton $6,250,000. For either of these expenditures we expect to get an annual production of 20,000,000 pounds and in each case we have assumed the same variety and types of production.

It should be borne in mind, however, that the conversion of Buffalo back to a Cellophane plant still contemplates the use of certain parts of the present Buffalo equipment and the use of this old equipment and the poorer layout of the plant will not permit the same labor efficiency as has been and will be obtained at Clinton. Also the rates of pay at Buffalo will be higher. These things combined, together with a higher gross investment after allocation of common facilities at Buffalo and higher power cost of .01¢ result in a forecast that shows Buffalo's mill cost 3¢ per pound higher than at Clinton.

In developing the best possible figure for Buffalo in this estimate we have assumed that we will do our own lacquer mixing, which is the Clinton practice. It should be borne in mind, however, that because of the congestion at the Buffalo location that there are certain additional hazards connected with this operation and that we may later decide that it is inadvisable to make the installation and carry on such an operation.

These figures disclose the following:

	Buffalo	Clinton
New money required	$5,200,000	$6,250,000
% return on new money	31.7	31.8
% return on new money and working capital	24.4	25.9
% return on total investment including Working Capital and Allocated	18.5	25.9

C-5712-B

The above and subsequent figures are calculations resulting from assuming a postwar tax rate of 40%.

We call attention to the fact that there is a hidden penalty for doing business in the State of New York because of their state franchise and income tax of $96,500 annually. At Clinton it is estimated that we will make one payment of $6,600. After reflecting this difference the return on total investment (including working capital), after taxes at Buffalo is estimated to be 18.1% and at Clinton 26.2%.

We believe that consideration of the figures shown on the attached white sheet will result in a decision to gain our additional capacity at Clinton rather than at Buffalo.

At present we have an installed capacity of 106 million pounds which after reflecting differences caused by variation in types of film produced gives us a practical capacity of approximately 100 million pounds, which is equivalent to an efficiency of about 95%. Part 1 of projects have been approved for expansion at Old Hickory, Spruance and Clinton, which if completed would give us a practical capacity of 128 million pounds. Experimental work has convinced us that the Clinton type of casting machine can be operated at 75 meters when producing film for coating. The Engineering Department has given us an estimate of $6,250,000 for the additional capacity at Clinton of 20,000,000 pounds annually, which gives us a permanent investment cost per annual pound of .3125. They have also estimated that for $7,600,000 they can give us an additional capacity at Clinton of 28,000,000 pounds when operating at 75 meters. This gives us a permanent investment rate per annual pound of .2714.

Therefore we now recommend that we keep our plans for expansion at Spruance and add to Clinton the 28,000,000 additional pounds previously mentioned. This will give us an installed overall capacity of 138,000,000 pounds which should result in an actual capacity of 132,000,000 pounds.

At present our installed capacity and permanent investment shows the following:

	Capacity in Pounds	Permanent Investment	Perm.Invest. Per Annual Lb.
Buffalo	14,400,000	$5,520,000	.3833
Old Hickory	33,600,000	9,424,000	.2805
Spruance	38,400,000	10,737,000	.2796
Clinton	20,000,000	7,177,000	.3589

The following shows the figures for the proposed methods of gaining additional capacity.

Buffalo	20,000,000	7,031,000	.3516
Old Hickory	3,000,000	1,000,000	.3333
Spruance	3,700,000	650,000	.1757
Clinton	20,000,000	6,250,000	.3125
Clinton-High Speed	8,000,000	1,350,000	.1700
Clinton Total	28,000,000	7,600,000	.2714

If our recommendation to gain additional capacity at Spruance and at Clinton at the 75 meter speed is followed we than gain in installed capacity 31,700,000 pounds for a total expenditure of $8,250,000 or .2603 per annual pound. This program would result in our having a total capacity of 138 million pounds and a permanent investment of about $41,800,000 and a permanent investment per annual pound of .2977 with a practical capacity of 132 million pounds. Our present permanent investment per annual pound is .3088 and our practical capacity 100 million pounds.

It may be questioned as to what the Buffalo picture would show if we were to consider operating at that location at a speed of 75 meters. It seems obvious that such a proposal for the Buffalo location would compare even less favorably because there will then be no advantage at Buffalo from using the old equipment as new installations would be required to gain this increased capacity.

The question may logically be asked as to why we don't consider higher speeds at other locations. To-date we have not been able to speed up our older machines and produce a film of satisfactory quality, nor do we yet know how to produce P.T. film at as high a rate of casting speed as we do film that is to be subsequently coated. Before recommending the construction of a new plant beyond that set forth herein we will survey carefully the possibility of increasing production from the present equipment.

Even though we recommend discontinuance for the time being of plans to expand our production capacity at Old Hickory we do intend to ask for money to provide that location with adequate office space and facilities which will cost somewhere in the neighborhood of $175,000.

J. L. Hines

T. L. HINES
GENERAL ASSISTANT MANAGER

TLH:IM
Att.

55702 B

SCHEDULE C
(REVISED)

RAYON DEPARTMENT - CELLOPHANE DIVISION

ADDITIONAL S CM'S & 1 TOWERS AT BUFFALO VS. AT CLINTON
PROSPECTIVE EARNINGS CALCULATIONS ON YEARLY BASIS

	BUFFALO				CLINTON			
	Per Lb.	Arbitrary Tax Rate of 40%	Overall Tax Rate of 70.8%	Maximum Tax Rate of 85.5%	Per Lb.	Arbitrary Tax Rate of 40%	Overall Tax Rate of 70.8%	Maximum Tax Rate of 85.5%
		$0,000,000#	$0,000,000#	$0,000,000#		$0,000,000#	$0,000,000#	$0,000,000#
Outside Sales	.3721	$7,442,800	$7,442,800	$7,442,800	.3721	$7,442,800	$7,442,800	$7,442,800
Deduct								
Mill Cost	.2122	4,243,900			.1823	3,645,100		
Frt. & Delivery	.0025	50,000			.0025	50,000		
Selling Expense	.0050	100,000			.0050	100,000		
Administrative Expense	.0053	106,600			.0046	92,400		
All Other Expense (Except Taxes) at 6.7% of Oper. Earnings Before Taxes	.0098	197,100			.0119	238,200		
	.2348	4,697,600	4,697,600	4,697,600	.2063	4,125,700	4,125,700	4,125,700
Prospective Net Earnings Before Taxes	.1373	2,745,200	2,745,200	2,745,200	.1658	3,317,100	3,317,100	3,317,100
Federal Income & Excess Profits Taxes	.0549	1,098,100	1,943,600	2,347,100	.0663	1,326,800	2,348,500	2,836,100
Prospective Net Earnings After Taxes	.0824	1,647,100	801,600	398,100	.0995	1,990,300	968,600	481,000
Investment for Return Calculation								
Expenditure Requested This Project		5,200,000				6,250,000		
Other Mfg. Facilities Allocated *		931,880				-		
Service Facilities Allocated		1,200,000				-		
Additional Working Capital Required		1,554,200				1,446,900		
Investment upon which return is to be calculated		8,886,080				7,696,900		
Return on Investment Before Taxes		30.9%	30.9%	30.9%		43.1%	43.1%	43.1%
Return on Investment After Taxes		18.5%	9.0%	4.5%		25.9%	12.6%	6.2%

* Other Mfg. Facilities Allocated

From Cordura	2,260,980
Less Write-Off	- 1,329,100
Net Allocated	931,880

PROSPECTIVE EARNINGS CONSIDERING ACTUAL STATE FRANCHISE AND INCOME TAX

Oper. Earnings Before All Other Expense	2,942,300			3,555,300			
All Other Expense Except State Franchise And Income Tax @ 5.5%	161,800			195,500			
Actual State Franchise & Income Tax to be paid ($6,600, one time tax at Clinton not considered)	96,500						
Note: Company overall: All other items 5.5; State Franchise & Income Tax 1.2; 6.7							
Prospective Net Earnings Before Taxes	2,684,000	2,684,000	2,684,000	3,359,800	3,359,800	3,359,800	3,359,800

Defendant's Exhibit No. 615

November 4, 1944

1. Mr. May
2. Mr. Yerkes

L.A.Y.

CELLOPHANE POSTWAR CONSTRUCTION PROGRAM

At your request, I reviewed the present status of the preparations for the Cellophane postwar construction program.

1. Clinton

The Engineering Department's design and estimating activities have progressed on schedule and have not been delayed by considerations on the disposition of Buffalo.

Design work on Clinton will reach the stage of a firm estimate between November 25th and December 1st, at which time an appropriation request could be submitted to the Executive Committee. Details of design, not considered necessary for a firm estimate, will be completed by March 1, 1945.

If it should appear desirable to initiate the purchase of eight casting machines for Clinton, the necessary details for an appropriation request could be completed for the Executive Committee meeting of November 15th, provided a decision to do this would be made by next Monday, November 6th.

The Clinton design program, as well as that for the Spruance Plant, will not be affected by any sudden acceleration of the Nylon construction plans.

2. Spruance

Design and estimating work on the Spruance bottle-neck will be completed on December 1st, details by March 1, 1945.

3. Buffalo

Our Engineering Section expects to complete an estimate for the "minimum expenditure" at Buffalo by next Wednesday, November 8th. This will not contemplate the use of Clinton type casting machines but will merely propose the reconditioning of four converted machines to utilize available Chemical Building capacity.

4. Old Hickory

The project to open up the bottle-neck at Old Hickory is in the design stage but no definite dates for completion have been set. In view of the very high cost of this proposed

project, consideration is being given to abandoning it in favor of getting at least the same additional poundage at a substantially lower expenditure at Clinton.

This proposition need not interfere with or delay the original Clinton expansion program.

4.

MK:C

Defendant's Exhibit No. 616

EXTRACT FROM MINUTES OF EXECUTIVE COMMITTEE MEETING #1934.

OCTOBER THIRD, 1945.

E. I. DU PONT DE NEMOURS & COMPANY

AUTHORIZATION OF PREMIUM EXPENDITURE OF $100,000 TO ACCELERATE CONSTRUCTION OF FACILITIES AT CLINTON CELLOPHANE PLANT UNDER PROJ. #394 - $7,100,000 COVERING INCREASED CELLOPHANE FILM CAPACITY:

Letter, dated September 21, 1945 (#4602), was presented from B. M. May, then Assistant General Manager, Rayon Department (General Manager since October 1st), advising that above-mentioned premium expenditure (representing 1.4% of total amount authorized under this project) had been authorized for winter construction, with objective of completing this expansion two months ahead of original schedule and thus obtaining earlier increased output of cellophane film to meet anticipated sales demand.

After discussion, it was moved and unanimously carried that the letter be ordered filed, and that the Secretary be requested to advise the Finance Committee, as a matter of information, of this departmental action which meets with the approval of the Executive Committee.

RETURN TO EXECUTIVE COMMITTEE ROOM 9069

Return on Investment After Taxes	18.5%	9.0%	4.5%		25.9%	12.6%	6.2%

* Other Mfg. Facilities Allocated

From Cordura	2,260,980
Less Write-Off	- 1,329,100
Net Allocated	931,880

PROSPECTIVE EARNINGS CONSIDERING ACTUAL STATE FRANCHISE AND INCOME TAX

Oper. Earnings Before All Other Expense	2,942,300				3,555,300		
All Other Expense Except State Franchise And Income Tax @ 5.5%	161,800				195,500		
Actual State Franchise & Income Tax to be paid ($6,600, one time tax at Clinton not considered)	96,500						
Note: Company overall: All other items 5.5; State Franchise & Income Tax 1.2; 6.7							
Prospective Net Earnings Before Taxes	2,684,000	2,684,000	2,684,000		3,359,800	3,359,800	3,359,800
Federal Income & Excess Profits Taxes	1,073,600	1,900,300	2,294,800		1,343,900	1,378,700	2,872,600
Prospective Net Earnings After Taxes	1,610,400	783,700	389,200		2,015,900	981,100	487,200
Return On Investment Before Taxes	30.2%	30.2%	30.2%		43.7%	43.7%	43.7%
Return on Investment After Taxes	18.1%	8.8%	4.4%		26.2%	12.7%	6.3%

Prepared by Planning Section
Revised - 10/26/44
(Revised: Buffalo - PX Mixing, Use of Cellumier Pulp & increased Investment. Clinton - Reduced Investment)

Defendant's Exhibit No. 621

March 17, 1948

TO : FINANCE COMMITTEE

FROM : EXECUTIVE COMMITTEE

cc: B. M. May
E. K. Gladding
H. C. Haskell

APP'N $250,000 - PROJ. #5564-1 - SITE STUDIES, PRELIMINARY ESTIMATES AND DESIGN FOR AN 8-CASTING MACHINE CELLOPHANE PLANT AT A NEW SITE:
and
QUESTION OF FURTHER EXPANSION BY DU PONT IN THE CELLOPHANE FILM BUSINESS:

At meeting of the Executive Committee, held today, there again was presented above-mentioned Part 1 appropriation request from the Rayon Department, dated January 12, 1948, action on which was deferred at the Committee's meeting on January 21st.

Also, in response to the Committee's request of January 21st, report (as per copy attached) was presented from the Development Department, dated March 9th (#1235), re question of further expansion by du Pont in the cellophane film business.

After discussion with representatives of the Rayon, Development, and Legal departments, it was moved and unanimously carried that the request and report be ordered filed, that the aforesaid Part 1 appropriation request be not approved, and that the following resolution be adopted, subject to approval of the Finance Committee, viz:

RESOLVED, that the Development Department, in collaboration with the Rayon Department, be requested to ascertain promptly, and to report to the Executive Committee, as to the possibility of interesting one or more concerns in going into the manufacture of cellophane cellulose film, and cellulose bands, on the basis of du Pont -

1) furnishing its "know-how" (consisting of the best commercial practice at the time of an agreement with a new producer), and licenses under its pertinent U. S. patents, for a moderate fee;

2) being willing to assist a new producer in a new plant project, on a moderate fee basis, as consultant, design contractor, sub-contractor, or general contractor;

with the understanding that no commitments will be made without prior approval of the Executive and Finance committees.

EXECUTIVE COMMITTEE
By [signature]
SECRETARY

37 - encl.

STATISTICS SHOWING FOR YEARS 1931 THROUGH 1950:

Purchases of Wood Pulp For All Purposes by Rayon Department of Du Pont As Well As Film Department (Since April 1950)
and
Wood Pulp Consumed by Du Pont Solely in The Production of Cellophane, "Cel-O-Seal" Caps and Bands, Cellulose Sponges and Sponge Yarn

No. 62

Rayon
art-

ps and

Name of Vendor	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	194
Riordon Sales Corporation Ltd.															
Purchases - $ Value	1,205,636	996,251	1,083,625	982,111	1,230,845	1,102,173	1,785,591	1,470,643	1,931,985	1,536,750	1,845,999	1,941,114	2,202,276	2,589,388	2,192
Purchases - $ Per Ton	77.30	77.31	69.47	67.72	68.38	70.00	71.90	81.86	75.57	81.46	85.10	86.11	86.03	91.97	95.
Purchases - Tons	15,597	12,887	15,599	14,503	18,000	15,745	24,835	17,331	25,567	18,865	21,692	22,806	25,599	28,154	23.
Consumption - Tons	9,231	7,768	6,903	4,551	4,403	818	8	-	-	-	-	-	5	2,623	
Rainier Pulp & Paper Co. (Rayonier Inc.)															
Purchases - $ Value	710,651	535,570	727,570	981,596	1,221,502	1,103,296	1,586,410	1,782,033	2,074,888	3,203,086	4,726,821	3,808,524	4,533,999	3,444,008	4,546
Purchases - $ Per Ton	70.91	65.01	61.06	64.78	66.26	64.22	61.56	74.67	60.32	67.05	70.88	77.16	81.80	93.12	91.
Purchases - Tons	10,022	8,238	11,916	15,152	18,718	17,181	25,772	23,864	34,399	47,774	66,690	49,357	55,430	36,983	49.
Consumption - Tons	5,415	8,617	9,498	12,746	13,727	15,091	17,796	21,608	24,959	26,439	37,245	30,740	20,962	16,937	19.
Brown Company															
Purchases - $ Value	89,842	-	-	-	8,209	488,750	580,708	632,828	612,559	704,100	891,902	1,130,646	1,593,964	2,372,844	1,977
Purchases - $ Per Ton	149.90	-	-	-	59.92	59.24	61.42	79.90	62.60	69.04	72.00	104.30	104.50	107.57	104
Purchases - Tons	1,620	-	-	-	137	8,250	9,455	7,920	9,786	10,199	12,388	17,198	19,553	22,750	18.
Consumption - Tons	1	-	-	-	123	6,866	9,388	7,696	9,308	10,555	12,363	8,969	23,479	20,437	21.
Pagel Horton & Company, Inc.															
Purchases - $ Value	-	-	-	7,174	312,308	299,846	-	-	-	-	-	-	-	-	19.
Purchases - $ Per Ton	-	-	-	59.78	60.00	60.01	-	-	-	-	-	-	-	-	89.
Purchases - Tons	-	-	-	120	5,205	4,997	-	-	-	-	-	-	-	-	
Consumption - Tons	-	-	-	118	2,803	4,354	3,013	-	-	-	-	-	-	-	
Weyerhaeuser Timber Company															
Purchases - $ Value	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Purchases - $ Per Ton	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Purchases - Tons	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Consumption - Tons	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All Others															
Purchases - $ Value	-	-	176,007	3,028	6,032	6,055	-	7,946	-	-	-	-	-	254,989	94
Purchases - $ Per Ton	-	-	51.21	60.56	59.72	59.95	-	77.15	-	-	-	-	-	85.39	91.
Purchases - Tons	-	-	3,437	50	101	101	-	103	-	-	-	-	-	2,986	1.
Consumption - Tons	-	-	1,515	1,962	101	96	-	236	238	-	-	-	-	2,088	1.
Total															
Purchases - $ Value	2,006,129	1,531,821	1,987,202	1,973,909	2,778,896	3,000,120	3,952,709	3,893,450	4,619,432	5,493,936	7,464,722	6,880,284	8,330,239	8,661,229	8,830
Purchases - $ Per Ton	76.46	72.51	64.21	66.18	65.91	64.83	65.81	79.11	66.23	70.93	74.08	76.99	82.82	95.31	95.
Purchases - Tons	26,239	21,125	30,952	29,825	42,161	46,274	60,062	49,218	69,752	77,451	100,770	89,361	100,582	90,873	92.
Consumption - Tons	14,646	16,385	17,916	19,377	21,157	27,225	30,205	29,540	34,505	36,994	49,608	39,709	44,446	42,085	43.

1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
,083,625	982,111	1,230,845	1,102,173	1,785,591	1,470,643	1,931,985	1,536,750	1,845,999	1,941,114	2,202,276	2,589,388	2,192,204	2,878,960	4,191,776	5,362,354	4,408,299	4,430,988
69.47	67.72	68.38	70.00	71.90	81.86	75.57	81.46	85.10	86.11	86.03	91.97	95.00	112.36	139.97	158.80	159.96	162.16
15,599	14,503	18,000	15,745	24,835	17,331	25,567	18,865	21,692	22,806	25,599	28,154	23,075	25,622	29,947	33,768	27,558	27,325
6,903	4,551	4,403	818	8	-	-	-	-	-	5	2,623	573	-	-	392	589	-
727,570	981,596	1,221,502	1,103,296	1,586,410	1,782,033	2,074,888	3,203,086	4,726,821	3,808,524	4,533,999	3,444,008	4,546,039	6,739,076	11,512,121	14,867,116	12,855,267	16,159,566
61.06	64.78	66.26	64.22	61.56	74.67	60.32	67.05	70.88	77.16	81.80	93.12	91.73	109.76	142.45	164.96	164.81	163.32
11,916	15,152	18,718	17,181	25,772	23,864	34,399	47,774	66,690	49,357	55,430	36,983	49,558	61,398	80,816	90,124	77,999	98,944
9,498	12,746	13,727	15,091	17,796	21,608	24,959	26,439	37,245	30,740	20,962	16,937	19,400	30,081	39,154	46,482	49,352	48,472
-	-	8,209	488,750	580,708	632,828	612,559	704,100	891,902	1,130,646	1,593,964	2,372,844	1,977,180	1,577,367	3,375,540	4,323,900	4,314,349	5,419,193
-	-	59.92	59.24	61.42	79.90	62.60	69.04	72.00	104.30	104.50	107.57	104.50	107.57	137.93	157.92	158.99	155.28
-	-	137	8,250	9,455	7,920	9,786	10,199	12,388	17,198	19,553	22,750	18,920	14,664	24,473	27,380	27,136	34,899
-	-	123	6,866	9,388	7,696	9,308	10,555	12,363	8,969	23,479	20,437	21,630	14,248	22,683	28,707	26,639	35,391
-	7,174	312,308	299,846	-	-	-	-	-	-	-	-	19,870	122,585	707,876	-	-	-
-	59.78	60.00	60.01	-	-	-	-	-	-	-	-	89.91	110.24	210.55	-	-	-
-	120	5,205	4,997	-	-	-	-	-	-	-	-	221	1,112	3,362	-	-	-
-	118	2,803	4,354	3,013	-	-	-	-	-	-	-	193	1,139	-	2	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	107,590	1,275,558	2,088,156	2,297,238
-	-	-	-	-	-	-	-	-	-	-	-	-	-	142.69	150.97	150.42	153.06
-	-	-	-	-	-	-	-	-	-	-	-	-	-	754	8,449	13,882	15,009
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,263	5,640
176,007	3,028	6,032	6,055	-	7,946	-	-	-	-	-	254,989	94,797	159,369	-	6,687	748,885	335,959
51.21	60.56	59.72	59.95	-	77.15	-	-	-	-	-	85.39	91.24	107.46	-	155.51	164.92	150.00
3,437	50	101	101	-	103	-	-	-	-	-	2,986	1,039	1,483	-	43	4,541	2,240
1,515	1,962	101	96	-	236	238	-	-	-	-	2,088	1,488	4,558	-	-	3,399	2,612
987,202	1,973,909	2,778,896	3,000,120	3,952,709	3,893,450	4,619,432	5,493,936	7,464,722	6,880,284	8,330,239	8,661,229	8,830,090	11,477,357	19,894,903	25,835,615	24,414,956	28,642,944
64.21	66.18	65.91	64.83	65.81	79.11	66.23	70.93	74.08	76.99	82.82	95.31	95.14	110.06	142.77	161.71	161.56	160.54
30,952	29,825	42,161	46,274	60,062	49,218	69,752	77,451	100,770	89,361	100,582	90,873	92,813	104,279	139,352	159,764	151,116	178,417
17,916	19,377	21,157	27,225	30,205	29,540	34,505	36,994	49,608	39,709	44,446	42,085	43,284	50,026	61,837	75,583	83,242	92,115

No. 62 2

5259

Sources:
Purchases - 1931 through 1936 Accounts Payable Vouchers; 1937 through 1950 Records of Purchasing Dept., E. I. du Pont de Nemours & Co.
Consumption - Records of Film Control Division, E. I. du Pont de Nemours & Co.

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uchers; 1937 through 1950 Records of Purchasing Dept., E. I. du Pont de Nemours & Co.
. I. du Pont de Nemours & Co.

1266

DEFENDANT EXHIBIT NO. 673

ASSETS AND SALES OF FIVE LARGEST WOOD PULP SUPPLIERS

Year	Riordon Sales Corp. Ltd. (Subsidiary of International Paper Co.)		Rainier Pulp & Paper Co. (Rayonier, Inc. Subsequent to 10/31/37)		Brown Company		Pagel Horton & Co.		Weyerhaeuser Timber Company	
	Total Assets*	Net Sales*	Total Assets	Net Sales	Total Assets	Net Sales	Total Assets	Net Sales	Total Assets	Net Sales
1931	$898,538,082	$147,695,229	$ 3,747,454	$ 1,712,164	$80,066,496	$15,185,000				
1932	887,283,354	129,531,271	3,495,862	2,430,502	70,775,506	11,250,000	(Selling Agents -		(Data Not	
1933	881,420,790	135,338,295	3,536,867	2,294,447	69,108,597	10,929,000	No Data Avail-		Available	
1934	251,027,883	86,454,334	4,173,050	3,564,976	74,516,007	14,077,000	able)		Prior to 1937)	
1935	249,424,466	95,426,318	4,463,090	6,257,317	76,427,196	16,237,371				
1936	240,555,081	113,229,052	4,905,078	N.A.	75,967,561	17,961,628				
1937	258,143,232	123,487,150	21,434,922	13,278,021	44,302,628	24,166,386			$139,658,793	$ 34,339,388
1938	221,549,446	98,222,284	28,152,019	17,496,025	42,740,188	15,290,987			139,689,639	27,451,678
1939	219,866,585	122,289,912	29,684,062	10,049,431	39,383,267	17,560,170			140,280,186	35,151,839
1940	231,116,783	161,456,715	31,529,612	16,292,047	40,072,887	24,957,570			142,935,062	44,317,939
1941	248,514,322	214,334,236	33,626,232	25,154,297	44,854,254	32,198,400			153,119,416	61,609,883
1942	235,031,503	209,400,055	34,006,949	31,316,906	43,104,441	33,467,085			162,167,742	77,083,789
1943	241,995,931	216,122,581	29,929,418	28,427,865	40,464,345	30,997,931			164,183,751	73,471,798
1944	249,196,285	231,572,494	30,433,015	22,823,538	42,145,733	31,915,838			164,474,080	74,608,909
1945	252,357,819	234,245,619	37,071,895	25,969,823	43,031,142	33,284,010			160,574,533	60,656,821
1946	252,533,293	287,867,668	35,868,845	27,032,586	49,705,925	36,087,075			166,540,136	66,271,996
1947	278,586,094	405,248,239	62,523,907	49,964,041	50,014,204	42,630,468			180,557,553	102,551,190
1948	323,240,668	458,802,749	64,635,393	63,411,202	55,847,872	48,070,000			231,562,374	136,765,538
1949	345,690,788	415,540,851	64,793,119	48,710,192	52,303,027	43,263,495			248,260,129	155,662,755
1950	408,540,630	498,415,714	69,729,239	66,387,016	58,625,701	53,102,469			273,386,515	176,587,047

N.A. - Not Available

*Assets and Sales data are for International Paper & Power Co. from 1931 to 1940, inclusive, and for International Paper Co. from 1941 to 1950, inclusive. Data for 1931 to 1933, inclusive, include International Hydro-Electric System and subsidiaries.

Source: Moody's Industrials - Manuals from 1932 to 1951 inclusive.

Defendant's Exhibit No. 624

Messrs. Lee
Yerkes
May

Referred to

May 27 1926

Mr. Sigmund Wang
Riordon Pulp Corporation, Ltd
Hawkesbury, Ontario.

Dear Mr. Wang:

With further reference to our conversation on your last trip to Buffalo and to our letter of April 30 and your reply of May 18, I have to present a slightly different angle to this subject.

This subject has been considered very carefully and in all of its aspects and we have reached the conclusion that we ought to modify our previous arrangements with you. We had previously agreed with you that we should visit your Hawkesbury Laboratory and that the object of this would be to assist you in making viscose in such a way that you would be able to judge the quality of the pulp from the rayon produced in your laboratory. It now seems advisable to change this to this extent:

We should not visit your Laboratory as the danger of putting you in an embarrassing position, due to the receipt on your part of confidential information, is too great. We believe that we should continue our discussions very much as before and that we should thru such means do all in our power to help you to improve your pulp. The reasons for this are as expressed in our letter of April 30.

It is natural that we shall want to do whatever we can to help you to make a raw material which is more suitable for our business and we stand ready at any time to deliver to you prompt service in testing experimental samples and offering suggestions as to possibilities of making improvements in your product for our purposes. We invite you to come to see us to dis-

M1486

cuss these matters at your convenience and trust that we may be able to be of assistance to you along these lines.

We are doing no more for the Riordon Company in this than we would do with any progressive manufacturer of wood pulp for viscose and we realize that you, on the other hand, have the privilege of getting similar help from any other manufacturer of rayon.

Truly yours,

Ernest B. Benger,

EBB:A.C CHEMICAL DIRECTOR.

P.S. - Messrs. Church
Blanco
Pickens
Webster --

In view of the decision indicated above by Mr. Yerkes and concurred in by Messrs. May, Lee and the writer, and the danger which is constantly present of imparting information to Mr. Wang or other pulp manufacturers which would be contrary to the policy of our company, I think it is advisable to ask you to avoid these discussions entirely. When such matters have to be taken up with the pulp suppliers or when they are here on such visits, I want to be present and to be the one to make the statements. If it becomes necessary to entertain these men at our offices in my absence, I wish you would arrange with Mr. Gladding or Mr. Lee beforehand to have them present and to have them know what you propose to tell them so that their criticisms may be had beforehand.

This same policy will apply to relations with representatives of all companies with whom we are doing business except E. I. du Pont of course.

E.B.B. M1486

Defendant's Exhibit No. 625

DU PONT RAYON COMPANY
INCORPORATED

TECHNICAL DEPT.

Buffalo, New York
June 14, 1929

Dr. E. P. Benger
Asst. General Manager

SUBJECT: PRESENT STATUS OF OUR ARRANGEMENT WITH MR. MC LERNON

In order to make sure that everything which is being done is in accord with your wishes, I think it advisable to make the following statement.

Mr. Seaman will leave for Washington within the next two or three days, probably Monday night, in company with Mr. Davies, if he is through with his other work by that time, - if not, Mr. Seaman will go alone.

Mr. Seaman is planning to leave his children here and take his wife with him. He expects to be gone for three months and perhaps more.

We pointed out to Mr. Davies and Mr. McLernon that it would be fully six weeks before the small digesters would be ready for use, and that part of that time there would be little for Mr. Seaman to do. Mr. Davies said he thought the wisest thing was for Mr. Seaman to come out at once and make a careful survey of the plant from the point of view of determining what would be necessary in order to produce a pulp that would be acceptable for Cellophane and also to decide what would be necessary in order to produce high alpha pulp. If there is any delay in the installation of the experimental equipment, he figured the time would be well spent with their engineers in planning the alterations which would be necessary for the plant and thinking over the plans for a separate unit designed specifically for the manufacture of high alpha pulp.

I do not think that the pulp as they make it today will be properly blended to meet our requirements for Cellophane. At the present time they are using an 85 ton tank for blending purposes, but the thank is located back of the bleaching operation. This is all right from the point of view of paper manufacturing, but is not at all acceptable from our point of view because of the influence that bleach has on the viscosity. We discussed this question with Mr. Davies and he thought it would be perfectly possible to alter the arrangement so

M 1348

6424

that the material could pass into the 35-ton tank after it was bleached, just prior to going over the paper machine. Under these conditions we think probably their pulp as it is made would be acceptable for Cellophane.

We will make a viscose viscosity determination next week on some of the pulp which we recently received from them. This will give them a fairly good idea as to where they stand with regard to viscosity. Viscosity control is totally unknown to them and they have no idea at all as to what factors influence viscosity. Our analysis showed the silica to be very high. It is possible that this might influence the clarity of the Cellophane. If the viscosity of the material which we have received from them is within a reasonable range, I think we should order from them a sufficient quantity of their pulp to run a charge through Cellophane to find out whether we could obtain a satisfactory product from it. them. From this we can determine what alterations must be made in order to make the material acceptable.

As I understood the situation from Mr. Gladding, Mr. Seaman is to receive his monthly pay check from us and is to render his traveling and running expense account to them. Unless otherwise instructed he will turn in an expense account to cover traveling expenses and all reasonable living expense for himself. He will turn in traveling expenses for his wife, but not living expenses for her.

Mr. Seaman will take with him a complete set of our analytical methods to cover all analyses required for pulp control, including cuprammonium viscosity. They will set up the equipment required for cuprammonium viscosity determination and will make a complete set of determinations of viscosity, alpha cellulose and iron, etc. on the pulp, sending duplicate samples of the pulp to us for check analyses.

I told Mr. Davies that I did not believe we would be able to make checks and it probably would be necessary for us to send a chemist out there to teach their men how these analyses should be made. He would appreciate that and thought it would probably save us both time and money. I will discuss this further with Mr. McLernon when he calls up regarding the small digester. As a matter of fact, I think we would save money by sending Steinbach out there in the beginning, but perhaps it is better to make an attempt to do it the other way because of the possibility that we may be able to get away with it.

M1343

Struthers-Wells Company have agreed to make up the small digesters approximately 30 inches in diameter by 4 feet long on the cylindrical portion, to be provided with jackets, trunnions and driving gears for not over $600 and give a delivery within 4 weeks, or possibly less.* I do not think it is possible to make up such an apparatus for $600 and told Mr. McLernon that I thought he had better figure on the cost being close to $1000.

(*)It is stated the digester would stand 250 pounds pressure.

I asked for Mr. McLernon's approval before ordering this digester. He stated he wished to confer with Mr. Davies and would tell us this afternoon if possible.

The other equipment necessary for the experimental work is very simple and can readily be obtained on the west coast, after Mr. Seaman arrives. I think it very important, however, to get somebody started building a digester.

I do not see how we can handle this situation without a project to cover the expenses which this department will be put to between now and the time we receive a satisfactory pulp for use in Cellophane, and a satisfactory pulp for use in our plant. Of necessity there will be considerable correspondence between Mr. Seaman and myself. It will be necessary to make a large number of check analyses in our laboratories. We will have to make a number of viscose viscosity analyses. I think it would be very advisable for us to make and spin small blowcase charges of viscose from lots of their pulp which have been produced about a week apart from now on, in order to get an idea as to how the physical properties change. If I understand the situation, they obtain a part of their material from the saw mill discard and a part fresh logs obtained from the much smaller diameter trees and that the question as to which they use is determined by the amount of discard in the saw mill. Mr. Seaman will find out very definitely their exact procedure or possibly we can arrange to have all of our material made all from one source or else all from the other source. I certainly would not think it advisable to have part of our material made from these very large trees which are usedin the saw mill and part from the 10 and 12 inch trees obtained from the forest. ~~When we~~

When we have obtained a pulp which is satisfactory for Cellophane I anticipate a considerable number of viscose charges which must be run and analyses which must be made in connection with developing the high alpha pulp for our rayon plant. I expect that we will have to make several runs in Semi-Works before we obtain a pulp which we are willing to use in our plant.

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During our conversation with Mr. McLernon he sent out a few feelers in regard to price. I told him that part of the deal would have to be taken care of entirely by Mr. Gladding or Mr. Hower, our Purchasing Agent, and that we were concerned entirely with the technical side of the situation. He made some remark regarding the value to us of making a half-cent saving on our pulp and I told him our company would not be interested in any development which would not net us more than that, that all we had to do at the present time was to give Eastern a little encouragement and they would immediately build a mill and supply us with pulp at a saving of at least a half-cent a pound and probably three-quarters, and that we did not consider a saving of a half-cent a pound would justify the dangers involved in changing the raw material for all of our plants, and that when we made such a step we considered it a very fundamental one and one that would not be justified without very decided returns. He then spoke about other alpha pulps at eight and over cents a pound. I told him at the present time we were purchasing pulp at 7-1/4¢ a pound and we felt sure that with the proper pressure to bear that price could be reduced to 6-3/4¢ and still allow the manufacturer a reasonable profit. But our viewpoint in general was that we always wished the manufacturer to receive a reasonable profit for the goods which he was selling to us and that that profit should be sufficient to enable him to carry out whatever research was necessary in order to maintain the quality of his goods and improve them as time went on, for we were not interested in a pulp which would remain the same for the next ten years. I further said that I thought that when he had made some pulp which was acceptable and had been able to determine pretty accurately what his costs were going to be on the pulp that then would be the time to discuss with Mr. Gladding and Mr. Hower what price was reasonable and that of course, there is no reason why he should not obtain a higher price in the general market. After this I again told him neither Mr. Seaman nor myself had any authority at all to discuss prices with him.

Mr. McLernon at this time stated that he wanted us to understand that his organization would welcome a combination with Du Pont if we were interested in taking over an interest in this rayon pulp production. That he wanted it thoroughly understood that they had ample funds to make any developments whatsoever that might be desirable and that in making such a statement he was not doing it for the purpose of obtaining funds but that they would be very glad to consider any type of combination which we might think desirable. I told him I thought we would be very much interested in maintaining a very close contract both with their operations and developments but that I doubted very much if we would ever be interested in becoming financially interested in such a development.

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Again I told him that I was not in a position to properly reflect the thought of the management on this subject. I think anyone who knows about this operation should be warned that they are very anxious to keep quiet the fact that they are planning to enter the high alpha cellulose pulp field.

By W. H. Bradshaw
W. H. Bradshaw

WHB:BW

M1343

Defendant's Exhibit No. 626

June 18, 1929

Dr. Fin Sparre
Director of Development Dept.
E. I. du Pont de Nemours & Co.
Wilmington, Del.

Subject: HIGH ALPHA PULP -- RANIER PULP & PAPER CO.

Through Mr. J. E. Hatt we have come in contact with Mr. J. R. S. McLernon of Acer McLernon Company, Ltd., Montreal, Can. He came to us for advice in connection with the manufacture of high alpha pulp for chemical purposes. Subsequently Mr. D. B. Davies, Manager of the Ranier Mills, came to see us with regard to cooperating with them. These people are by far the most important producers of pulp on the West coast and they are represented by high class men.

The Ranier people are interested in developing a high alpha pulp for rayon and we have discussed that subject with them in considerable detail. We have finally sent Mr. Stewart E. Beaman to Shelton, Washington, where he will work with the Ranier people at their expense in the development of a high alpha pulp which might be suitable for our uses.

Our purpose in connecting with these people is to insure ourselves of the reduced price which may be secured by the manufacture of pulp on the West coast. The low cost of their pulp comes chiefly from very low cost of wood, although their cost of operation is also somewhat under that of eastern mills.

Their mill at Shelton is new and is as up-to-date as can be made, so we feel that the conditions for the development of a satisfactory material are pretty good. Their statements to us indicate that they should be able to lay down at Buffalo a pulp corresponding in general characteristics with that which is produced by Canadian International for a cent less than we can secure from the latter company.

These people know nothing about the manufacture of a high alpha pulp or the characteristics required of cellulose for chemical purposes, but with the experience which Mr. Seaman and other members of our organization have, we feel that they stand a very good chance of being able to produce a material which will be satisfactory for rayon.

In this connection, I might say that we are not overlooking the recently issued patent to Brown Company, U.S. No. 1,709,322, which has an important bearing on this subject, but on the validity of which we have not yet secured an opinion.

We know of no reason why Ranier should not be able to make and deliver to us a high alpha pulp comparable to Brown's alpha at savings roughly corresponding to that which we calculate for the saving over Riordon. In fact, there are several reasons for believing that we would be able to get a high alpha pulp from the Ranier people for much less than one cent below the present Brown pulp.

We are giving you this information because we have recently had a letter from Mr. Payne of Leominster, stating that in view of developments which have recently occurred, the Brown Company has supplied them with pulp which is very much more satisfactory than the samples Leominster previously tested, and as a result of this development, the cotton linter plant for Leominster is not being installed at present. It has occurred to us that possibly the du Pont Company would be interested in having Mr. Seaman prepare some samples of wood pulp specially suited for nitration. We believe that Mr. Seaman's previous experience in the manufacture of Alphacel for the Eastern Company put him in a good position to carry on this work; we think the Ranier people would be interested in getting this cooperation in the production of such a pulp. We shall, of course, be glad to do anything in this connection which you request.

ERNEST B. BERGER
ASST. GENERAL MANAGER

EBB:JS

M1344

Defendant's Exhibit No. 627

CC: Mr. Gladding
Mr. Schwarz
Mr. Bradshaw
Mr. Touchton

Buffalo, N. Y.
May 22 1930

TO: EXECUTIVE COMMITTEE

FROM: TECHNICAL DEPARTMENT

APPROPRIATION REQUEST CX-65
PART III

$3,330 - IMPROVEMENT IN VISCOSE MANUFACTURE AFFECTING REGULAR CELLOPHANE

Part I	- Authorized by Mr. E. K. Gladding with the concurrent approval of Mr. J. E. Hatt - 11/28/29	$3,150
Part II	- Authorized by the Executive Committee - 2/27/29	5,445
Part III	- Authorized by Mr. E. K. Gladding with the concurrent approval of Mr. J. E. Hatt. 5/21/30	3,330
		$11,925

REASON FOR PART III

Under Parts I and II of this Appropriation Request, various viscose studies have been carried out with the particular object of improving the quality of Cellophane, as well as increasing the output of the present Chemical Buildings. Typical experiments have included increasing the cellulose and caustic concentrations of the viscose. Studies on Brown, Rainier and Southern pulp have been made. Brown pulp was shown to hold no advantages for the production of Cellophane. Rainier pulp was quite interesting but the work has been deferred until the product is made more uniform. Most encouraging results were obtained with Southern pulp. This Appropriation Request is submitted to provide funds to continue the work with Southern pulp and to perform other experiments relative to viscose manufacture in order to improve further the quality of Cellophane.

GPE:HE

Ernest B. Benger
ASST. GENERAL MANAGER
TECHNICAL DEPARTMENT

M1146

Defendant's Exhibit No. 628

6422

July 19th, 1930

Mr. J. C. Higgins,
c/o Col. A. B. Clark
Yeon Building
Portland, Oregon

Dear Mr. Higgins:

COPY

Before referring to the attached form of contract may I briefly review the development which have led up to it.

When Mr. Pickens returned two or three months ago from his visit to the Rainier properties and conversations there with Mr. Mills, he brought back from Mr. Mills to our company the question whether we would be interested in considering an agreement whereby we should contribute to Rainier permit for Dr. Pickens' transfer to Rainier plus current technical information and advice whereby Rainier might succeed in the manufacture of wood pulp suitable for consumption in the manufacture of rayon and cellophane and in return Rainier would offer a price concession on the amount sold of this higher alpha cellulose pulp.

The reply was transmitted indirectly to Mr. Mills that we would consider the proposition he might have in mind and as a result you and I commenced to discuss definite provisions of such an agreement.

After several conversations between us we apparently agreed on the number and substance of the provisions which should be included in the proposed agreement for the respective benefits of the parties concerned and the matter was left with you to draw up a simple form of agreement embodying the verbally agreed upon provisions of it.

I confess that I was surprised at what I felt to be the unnecessarily elaborate form of the agreement which you sent me June 23rd as our general discussion and my whole thought had been to have the contract as brief and simple as feasible. However, I endeavored to adapt my attitude to the form you suggested, provided it could be sufficiently simplified and several com-

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troversial points adjusted.

As you know, subsequent to my receipt of your form of agreement in question we had several discussions in an endeavor to make it mutually acceptable and the most difficult provision to reconcile seemed to be Section 4. In order to express our original understanding and present position respecting the substance of what Section 4 was to provide for, to further simplify the whole document and correct one or two minor details, we have had prepared modified formulation which is attached hereto in duplicate for your consideration. I assume you will show it and this letter to Mr. Mills in connection with your discussion with him of what has gone before between us.

It of course should be remembered that I have several times expressed during our conversations respecting this matter what we have believed was Mr. Mills' original intentions when he suggested co-operative efforts between Rainier and Du Pont. We have believed he had in mind a spirit of mutual confidence to promote something mutually worth while and advantageous, Du Pont to contribute permission for Dr. Pickens' transfer and current technical information and advice and assistance throughout the term of the contract and Rainier to contribute a wood pulp purchase price concession and royalty for the pulp sold by Rainier as a result of the combined efforts in question. Since the commencement of our conversations there have been several points which neither of us have thought of previously and which should properly be briefly mentioned in such an agreement. You will also note that the attached form changes Dr. Pickens' leave of absence to commence from June 8, 1930 to correspond with the actual date of the leave of absence granted Dr. Pickens.

Our company now has in effect a number of contracts of much greater magnitude than is embraced in the subject matter under discussion between us and there is not a single one of these as elaborate as the form submitted by you to me on June 23rd.

Furthermore our present suppliers of pulp are furnishing it to us in such large quantities a sudden radical change in our current purchases from them would be of great importance to those companies. Notwithstanding the foregoing, there is no contract existing betwee us and them. Also, there is no limit to the time within which we may make claim against them for any unsatisfactory pulp we might receive.

The fact that our relations with our present wood pulp suppliers has been mutually satisfactory shows that a mutual good will and spirit of helpfulness can satisfactorily cover a number of important features of the subject between us without a written con-

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tract. Therefore, should not a simple agreement or contract be all that is necessary to consummate the plan between us which does include some features in addition to our relations with our present pulp suppliers, and which should be briefly stipulated contractually?

Please tell Mr. Mills for me that I hope I have not misunderstood or misinterpreted the genesis of his original suggestion or the form of what he would concretely approve of expressed as an agreement.

I think you will agree that if our two companies are to enter into the relationship in question, the covering contract should be consummated soon.

With personal regards, I am

Very truly yours,

DEVELOPMENT DIVISION

W. H. FARMER, DIRECTOR

WHF:CF
Encls.(2)

COPY

FILE

M1345

Defendant's Exhibit No. 629

FORM NO. R 300-A 2-30 SM

TOUGHTON SCHWARZ
BRADSHAW EXEC. COM.
CHEMICAL J. E. HATT
EXTRA

HOFF
CHARCH
BRADSHAW
FONDA

TECHNICAL DEPARTMENT APPROPRIATION REQUEST

Division Chemical

Estimated Cost $ 10,225

Title Chemical Building Studies (Increased Capacity & Improved Quality)

Study Number CX-208 Including MX-165 - Part I

Process Affected Cellophane

Date April 22, 1932

Applicable to Following Plants All Cellophane

To be started May 1, 1932

Suggested by H. O. Thayer

To be completed August 31, 1932

Prepared by W. L. Hyden & A.P. Wendler
Supervised by W. L. Hyden

Est. Monthly Expenditures $

Approved W.L.H. S.P.W. W.H.C.
" W.H.B. E.K. Gladding 4/28/32
" (S) H.O. Thayer 5/7
" (S) T.L. Hines J.E. Hatt 5/4

CX expenses, Transferred from CX-181
Mar. 1275
Apr. 1150
May thru Aug. Incl.
4 mos. @ $225 5300 $5725

MX Expenses, Transferred from MX 165
Apr. 1000
May 2000
June 700 $4500
$10225

Estimated Savings (Per attached)

Authorized (S) B.M. May 5/5/32

DISTRIBUTION

Accounting Division

Please distribute all costs accumulated under this appropriation to:

Cellophane - All Plants - Inclusive
Department of Caps & Bands

Class B

M1147

FMS

REASON SHEET

CX-205 Chemical Building Studies (Increased Capacity and Improved Quality) Including MX-165 Part IV

Give the following information in order:

1. A statement of reason for wishing this work.
2. A comprehensive general description of the study describing what is proposed to be done.
3. Statement of benefits expected, if experiment is successful.

1. REASONS FOR DOING THIS WORK

For the past three years studies have been made with viscose aimed toward improving the quality of the product and increasing the Chemical Building capacity without equipment increases.

Investigations have been made of wood pulps from various sources, as well as cotton linters, and have led to the adoption of Canadian pulp as an alternate source of supply. The studies have also shown that Alpha "Extra" pulp is suitable for Cellophane manufacture.

Studies of viscose compositions have led to increasing cellulose content in standard viscose from 6.5% to 7.5% and have shown that further quality improvements result by the use of 8.5% cellulose content although it has been impossible as yet to produce film from viscose with 8.5% cellulose content equal in appearance to the present product.

In August 1931 a study by the Chemical Division and Mechanical Experimental Division was started in Plant 8 Buffalo with the object of increasing the Chemical Building capacity. This work was done under Appropriation Requests MX-165 and CX-181. This work has resulted in materially shortening the cycles; improved operation and economies have also been realized. The shorter cycles are being tried on a plant scale in both Buffalo plants and in Old Hickory Plant 2.

A small amount of work remains to be done before discontinuing the Chemical Building studies in favor of more urgent problems.

Preliminary work with larger press charges indicates that it will be possible to use in present equipment, charges greater than 188 pounds and thus increase the Chemical Building capacity, without detriment to Cellophane quality.

There is some evidence that the general film appearance can be appreciably improved through better control of index. The Mechanical Experimental Division is working on an installation designed to accomplish this.

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II. DESCRIPTION

As above indicated, Chemical building studies will be made with the objects of securing greater capacity by increasing the size of the charges, and improving the quality of the Cellophane by improving the uniformity of viscosity and index control. To accomplish the above results various runs will be required in Buffalo Plant 2. The work will include the active cooperation of both Divisions; funds for both are included.

III. BENEFITS

The benefits expected from this work generally are increased capacity with the present equipment and more uniform viscose.

Specifically, the above work will result in lower investment costs for future construction, eliminate the necessity for Chemical building additions until the additional capacity has been consumed and bring about a possible reduction in direct operating costs.

No direct estimate can be made as to monetary savings until the completion of the above outlined work. Based, however, on the successful operation of 150-pound press charges, the estimate for the eight casting machines for Buffalo Plant 2 has been reduced $250,000. A reduction of a similar amount ($250,000) is estimated by the Wilmington Engineering Department for the eight additional casting machines for the Spruance expansion under consideration.

In addition, the improved process has been estimated to effect a savings of 1/2 cent per pound in manufacturing cost. On a 40 million pound production, this is equivalent to a yearly saving of $200,000.

M1147

Defendant's Exhibit No. 630

cc: Messrs. Horsey - N.Y.
Pratt to sai
Yerkes - N.Y.

WWB

Buffalo, New York
Sept. 13, 1934

Dr. Fin Sparre
Development Department
E. I. du Pont de Nemours & Co.
WILMINGTON

Mr. W. H. Bradshaw told me of the recent meeting in Wilmington at which time among other things the Du Pont Rayon-Rainier agreement was discussed and advised that you wanted to know concerning our understanding of the intent, extent, and exclusiveness of this agreement.

Briefly, the original intent was to effect a cooperative arrangement between Du Pont Rayon and Rainier to improve sulfite pulp for the manufacture of the products which the Du Pont Rayon Company produces, i.e. viscose and acetate rayon, Cellophane and other similar cellulose products such as caps and bands; also other products based on cellulose which the Du Pont Rayon Company may in future manufacture.

The Rayon Company was to furnish technical assistance through loaning of personnel (Dr. Pickens, later transferred), running tests and advising results, suggesting in what way their product could be improved for our purpose, in other words helping in every way we could to get into the production of this type of chemical pulp in a substantial way. On Rainier's part they were to compensate us with a price concession varying with the price of pulp, and this was extended to include pulps bought from Rainier by the E. I. du Pont de Nemours & Co. and 50% or more owned subsidiaries.

As it stands now, the agreement, as I understand it, actually amounts to this: that Rainier furnishes E. I. du Pont de Nemours & Co. pulp at a concession in return for technical assistance from the Rayon Company. The agreement covers "sulfite" pulp 87 to 90% cellulose, and "high alpha cellulose" pulp 90% or over of alpha cellulose content.

Article I of the Agreement is as follows:

"Technical Cooperation

Rayon Company agrees to furnish Pulp Company the results of its research work and experiments which have had for their object the development and improvement of sulphite pulp for use in the manufacture of rayon and Cellophane and other cellulose products, and to furnish Pulp Company, during the life of this agreement, the reasonable cooperation of Rayon Company's technical and research staffs in all matters relating to the development and improvement of the quality of sulphite pulp for use as aforesaid, and to that end Rayon

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Dr. Fin Sparre 3/12/34

"Company will, during the life of this agreement, communicate and make available to Pulp Company all such technical knowledge, information and experience as Rayon Company may possess or acquire relating to the qualities, characteristics, improvements and requirements of such sulphite pulp, to the extent that Rayon Company is not restricted from so doing because of unexpired patents owned by others."

Briefly this means to me that Rayon Company agrees to furnish results of its research work and reasonable cooperation of Rayon Company technical staff in developing and improving sulfite pulp for products in the Rayon Company's field of activity, and to make available to Pulp Company all such ("such" means to me "so obtained") technical knowledge, etc. as Rayon Company may possess or acquire (as a result of its research work which includes any work done at the Station on Rayon Company's account) etc.

I don't take this Article I to mean that E. I. du Pont de Nemours & Co. must give to Rainier results of their research work other than that which is paid for by the Rayon Company. I realize knowledge is colored from many sources, but if Arlington for example quite independently developed a nitrating cellulose for plastics, it would be outside this agreement.

There is nothing exclusive about the agreement, and legally we could have other similar agreements, but an ethical administration would be impossible. I see no reason that would prevent the du Pont Company or its subsidiaries from making an agreement with some other pulp company for the development of a sulfite pulp for some purpose outside the field of the Rayon Company's activities. However, if a pulp were so developed for nitration and we used it at Waynesboro, it would be necessary for us to pass on to Rainier that information we had regarding this pulp. Such a situation could be complicated, and further agreements would have to take the existing one into consideration to avoid complications as much as possible. A further agreement with Rainier, other things being equal, would indicate itself.

TECHNICAL DEPARTMENT

E. K. Gladding
Asst. General Manager

EKG:OLB
tf

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Defendant's Exhibit No. 631

6446a

DU PONT RAYON COMPANY
INCORPORATED
NEW YORK

February 7, 1936.

Mr. M.D. Lee, General Manager,
Technical Department,
Buffalo.

Mr. W.H. Bradshaw, Director,
Viscose Rayon Research Division,
Buffalo.

SOUND VIEW PULP

Mr. Henry H. Fair, 405 Montgomery Street, San Francisco, is either the President or the Executive Officer of the Sound View Pulp Company of Washington. They are manufacturers of pulp for the paper trade and have decided to attempt the manufacture of rayon pulp.

This is the company that attempted an amalgamation with Rainier a couple of years ago which eventually fell through. They were at that time in some financial difficulties which apparently have been straightened out, and I am assured by Mr. Fair that their financial position is sound. He tells me they are now paying dividends on their common stock.

He is familiar with our arrangement with Rainier covering the exchange of technical information, etc. etc., having seen this at the time the amalgamation was discussed, and he would like to make a similar arrangement with us, briefly, we to furnish information and in return to get a reduction in price. I have not looked up the Rainier contract recently and I do not know just whether we are free to make any other arrangements of this kind or not, but I presume we are. However, I am not contemplating doing anything of the kind now.

I did promise, however, to send Mr. Fair complete specifications for our rayon pulp, and I would be glad if you would send them to me in order that I may forward them.

If you have any comments, I will be glad to have them.

L A Yerkes

P 11351

Defendant's Exhibit No. 632

YT-1017
6446

CC: Mr. W. H. Bradshaw

Buffalo, New York
February 10, 1936

M-146-1

Mr. L. A. Yerkes
President
New York Office

I have discussed your letter of February 7 with Messrs. Bradshaw and Gladding, regarding the feasibility of entering into a technical agreement with the Sound View Pulp Company of Washington, similar to that which we now have with Rainier.

We are inclosing herewith a copy of our regular pulp specifications, as requested in your letter.

It is the consensus of opinion, including that of Mr. Pralatowski, that we should not enter into any other agreement with a pulp manufacturing company. Perhaps such an agreement could legally be drawn, but it would be extremely difficult to operate under it. Our Rainier agreement states that we shall give them all information which we have or which we acquire in regard to the manufacture of pulp, which would mean giving them all the information which we might obtain from the Sound View people. Of course, an agreement could be made with Sound View which theoretically did not necessitate giving them Rainier information, but such an agreement would be almost impossible to administer. Mr. Bradshaw feels that he knows in considerable detail the operation of the Rainier process, that he has been given secret and confidential information by them, and he would not trust himself to discuss pulp matters in any great detail with another manufacturer. All of those in our organization with whom I have discussed this matter are very much opposed to any other agreement.

You will probably recall that in October 1934 the question came up of the Du Pont Viscoloid Company making a technical agreement with Riordon. In Mr. Pralatowski's discussion at that time, copy of which was sent to Mr. Horsey and probably was passed on to Dr. Sparre and others, he said:

> "I believe the Du Pont Rayon Company could now negotiate an agreement with Riordon, for example, but it would find itself having to give Riordon's information to Rainier and undoubtedly Rainier's information to Riordon. I think this would impose a heavy burden on the management of the Rayon Company in administering the two agreements and I think the charge of bad faith with respect to the two agreements would promptly be introduced."

He still maintains the same views, and we believe that it was finally decided that Viscoloid would make no agreement with Riordon,

M1352

MduP:OLB

-1-

6416

Mr. W. A. Yerkes 2/13/26

based on our views.

If you disagree with our conclusions or wish to discuss the matter further with us we will be glad to do so.

TECHNICAL DEPARTMENT

GENERAL MANAGER

WduPL:OLB
tf

COPY

FILE

M1952

Defendant's Exhibit No. 633

6444

Orig.: Dr. W. L. Ryden, BUFFALO
CC: Mr. H. O. Thayer,
Mr. A. C. Jones, WILM.
Extra (1)

Buffalo, New York
November 2, 1938

M E M O R A N D U M

Subject: CELLUNIER LOW VISCOSITY PULP

This memorandum covers points discussed on November 1, 1938 with Dr. R. H. Pickens of Rayonier, Inc., in Dr. Ryden's office. Although the current test of the subject pulp at Old Hickory Plant 1 has been progressing smoothly as far as we knew, Dr. Ryden telephoned to Mr. E. L. Lynn to discuss several specific points concerning the test and to inquire whether any particular points should be discussed with Dr. Pickens. Mr. Lynn's report was entirely favorable to low viscosity Cellunier on the score of general handling, low hemicellulose equilibrium, low aging time (20 hours) at decreased temperature, marked improvement in filterability, and normal film physical characteristics. Detailed data will be presented shortly in a report which is being prepared by Old Hickory, and which will probably recommend that Old Hickory Plant 1 be continued indefinitely on low viscosity Cellunier pulp. Mr. Lynn was advised that Dr. Pickens will be at Old Hickory shortly to contact Mr. Bradshaw there. During this visit Mr. Pickens will see Mr. Lynn so that the performances above can be discussed and some of the bales be examined by Dr. Pickens.

A number of interesting points concerning the manufacture and properties of low viscosity Cellunier were brought out in subsequent discussion with Dr. Pickens. There is an increase of from $3.00 to $5.00 a ton in manufacturing cost, but the exact amount cannot be determined until a run of approximately 3,000 tons has been made. This increase does not give the manufacturers much concern because they find they have developed a superior pulp which will help to insure their market. Dr. Pickens indicated that this pulp would be offered to their other customers if manufactured on a large scale. Rayonier, Inc. appears to be quite anxious that we should settle upon the use of a single type of pulp, either the regular Cellunier or the low viscosity type. Manufacturing control on the low viscosity pulp has proved to be satisfactory and without difficulty. Confidentially, Dr. Pickens told us that yarn spun from low viscosity Cellunier appears to be about 15% stronger than that made from regular pulp. We were interested in Dr. Pickens' admission that this low viscosity pulp development has resulted directly from the insistence of "Cellophane" Research that trial lots of low viscosity pulp be submitted for evaluation in a Cellophane plant.

M1488

TVC:DW -1-

6444

Memorandum November 2, 1938

Our processing conditions and work on viscose composition had reached a point where the advantage of a low viscosity pulp would be very great; hence the continued agitation by "Cellophane" Research for such a pulp.

Findings of Rayonier, Inc. in connection with low viscosity pulp are contrary to opinions held by their consultant, who is associated with the Cross & Bevan Laboratories and states that the trend on the continent is toward higher rather than lower viscosities. However, Rayonier, Inc. can support their statements with data from hundreds of tests.

Dr. Pickens expressed satisfaction with their findings on cuprammonium viscosity of regenerated cellulose, determined at our request, and stated the willingness of Rayonier, Inc. to cooperate with us further, in work of this nature. Fractionation of cellulose was discussed, and Dr. Pickens stated that they are interested in work on fractionation of the actual fibers, since fiber lengths can be correlated quite closely with viscosity characteristics of the cellulose.

We learned from Dr. Pickens that our competitor has been sending samples of viscose to Rayonier, Inc. for gel count and that the viscose which was originally of distinctly low quality has since been improved some 300%. At one time our competitor used some Fraser pulp as well as Cellunier, but is discontinuing the Canadian pulp.

The effect of manganese in pulp was discussed by Dr. Pickens, who states that trouble develops when manganese exceeds 0.8 to 1.0 p.p.m. He is inclined to attribute the erratic viscosity characteristics of Brown hardwood pulp, at least in part, to the uncontrolled manganese content, which can be brought under control. Poor steeping characteristics of British Columbia pulp have been indicated by the excessive floating characteristic of the pulp and low viscose filterability. We agreed to send Dr. Pickens a small quantity of Port Alice pulp if we have any still available. Kraft pulp is not at all suited to viscose manufacture according to Dr. Pickens' statement, which confirms our limited experience on this pulp.

RAYON TECHNICAL DIVISION
"Cellophane" Research

M1488

T. W. Chandler

TWC:DH
t-f

Defendant's Exhibit No. 634

6403

(Blind Copy): Dr. E. E. Benger
Mr. F. M. Frell
Dr. L. S. Simmons
Mr. H. J. White
Mr. L. A. Yerkes

A-15076

DU PONT

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

RAYON DEPARTMENT
TECHNICAL DIVISION

Wilmington, Delaware
July 10 1942

Dr. R. H. Pickens
Rayonier, Incorporated
127 East 52nd Street
New York City

Dear Dr. Pickens:

When you were in our office Wednesday we discussed our agreement to work intensively with you on the production of a pulp suitable for replacing linters in the manufacture of "Cordura". I believe the present arrangement does not interpret the du Pont and Rayonier contract on too broad a basis.

After reading the contract, we are in agreement that the present arrangements, whereby the Chemical Department are doing work for the Rayon Department, directed towards investigation of pulps, will be handled by Rayonier and the du Pont Company on the same basis we have handled other exchange of technical information in the past. In other words, we will pass on to you any information which will be useful in the manufacture of pulps, and will retain for our own use information regarding the manufacture of rayon from pulps supplied by you. This exchange of information will be handled directly between your office and the writer's.

In addition to the technical exchange of information on pulps, we are giving you, confidentially, of course, our current process of manufacturing No. 135 "Cordura", this for the purpose of placing you in the position to evaluate pulps in your Semi-Works and in this way eliminate all but the most likely samples from our testing program.

Very truly yours,

TECHNICAL DIVISION
Viscose Rayon Research

G. V. Filson, Director

GVF:G

11537

Defendant's Exhibit No. 633

April 28, 1933.

Interview with Mr. Rafferty, President of Carbide & Carbon Chemicals, and Dr. Davidson, Vice-President in Charge of Sales.

They call their new product competitive with Cellophane GLYPFLIN.

They have to make a decision by July 1st for the people who brought the development to them. Their option runs out by that time.

Their interest at the moment is to evaluate the product and to avoid the delay and expense of building semi-works plant. They would like to run this in our plant, either with us or without us as we may elect. The inference is that we get first shot at this new development. They make the plain statement that Industrial Rayon are very anxious to get hold of this.

They call this an etherified cellulose, from which I would gather that it is made from wood pulp and ether.

They claim that it is every bit as good as Cellophane and possibly better. They admit that they are not at all certain about the patent position and would rather depend on controlling the raw materials and operating as a secret process.

They practically said at one time that in any partnership that might be worked out they would put emphasis on the suppliers of the raw materials, which they claim they are alone in at the present time.

They say that their cost for materials they calculate is 2¢ lower than our Cellophane cost of materials. This is before the sheeting operation. Later we asked them what their estimate of Cellophane materials cost was and they guessed it was 11¢.

They claim among other things:

(a) A better yield in the conversion of the raw materials, claiming practically no losses. I suppose they refer to caustic losses and carbon bisulphide.

(b) They claim that carbon bisulphide is not needed at all.

(c) They claim that no bleach operation is needed.

(d) They claim that their product is clearer and brighter and equally moisture proof as compared with Cellophane.

M1492

43,

The sample lot that they gave me they say contains 7% glycerine. Some hint may be given as to their process when they say that they need refrigeration. On the other hand they claim that their material can be kept an indefinite period and the process need not be rushed to a conclusion as is the case with viscose.

They also claim that any scrap from their process can be completely and easily reworked.

Rafferty claims that they have moistureproofed some of their material with lacquer and some with Vinylite.

WR:HL

WM. RICHTER.

M1492

Defendant's Exhibit No. 636

422

FORM 20077 6M 3-30

Copy to Mr. W. S. Carpenter, Jr., V.P.
Dr. C. M. A. Stine, V.P.
Dr. Fin Sparre
Mr. E. K. Gladding-Rayon-Buffalo
Mr. W. H. Farmer-Rayon-New York

E. I. DU PONT DE NEMOURS & COMPANY
(INCORPORATED)

CHEMICAL DEPARTMENT
WILMINGTON, DELAWARE

July 7, 1933

MR. L. A. YERKES, President
DuPont Rayon Co., New York

L. A. Y.

The following cablegram has been received today from the London Office:

"Dr. Bolton. We have received a letter from Lilienfeld requiring immediate instructions from you STOP Writing. Development since our visit may cause him to make definite decision as to exploitation his U.S. Patents 1,722,927 and 28 in the near future STOP Has postponed decision until July 15th STOP By that time wants us to decide whether we desire to negotiate license under these and make definite arrangements in this respect STOP States specifically cooperation difficult for him unless we inform him what we contemplate to produce under these patents and results we obtained in experiments STOP See our letter December 19th and June 29th."

These patents refer to the manufacture of glycol cellulose and the use in filaments and films. In view of your discussions on glycol cellulose with Carbide & Carbon Chemicals Corporation and your proposed investigation of this material as a substitute for Cellophane, you may prefer to reply directly to the London Office. To date our laboratory work has not disclosed any uses for glycol cellulose other than as transparent sheeting so that interest in these patents will depend entirely upon the value of them to DuPont Cellophane Company. Will you kindly advise us as to your decision.

E K Bolton

E. K. BOLTON
CHEMICAL DIRECTOR

M1493

EKB:MC

Defendant's Exhibit No. 637

Copy for: Mr. W.S.Carpenter,J.
Dr. C.M.A. Stine
Dr. Fin Sparre
Mr. E.K. Gladding
Mr. W.H. Farmer

July 10, 1933.

Dr. E.K. Bolton, Director,
Chemical Department,
E.I. du Pont de Nemours & Company,
Wilmington.

Dear Dr. Bolton:

LILIENFELD U.S. PATENTS #1722927 and #1722928 - GLYCOL CELLULOSE

I have your letter of July 7th regarding the above. Presumably we must accept the cable from the London Office to mean just what it says and under these conditions I feel that we should tell Dr. Lilienfeld frankly that we are not in a position to negotiate for the American rights under these patents under the conditions that he has suggested, which I understand are that we tell him definitely that we are going to produce glycol cellulose sheeting and even to what extent.

You are much more familiar with the patent situation than I am but I am clear that it is badly muddled and that even the purchase of these Lilienfeld patents would not give us a clear field. It would perhaps give us a trading position with Carbide and Carbon but we would still be muddled up with I.G. and Dreyfus patents.

Carbide and Carbon, in connection with the Sylvania Industrial Corporation, have made two experimental runs of glycol cellulose at Fredericksburg, Va., with quite negative results. I think there is no doubt that eventually they, and we too, will be able to produce glycol cellulose of a quality very similar to Cellophane but, from our experience to date, no better.

As we see it today our only possible interest in glycol cellulose is a slightly lower cost of raw materials and this is problematical and depends entirely on the cost of ethylene oxide.

M1494

421

It is very evident from the tests already made at Sylvania that glycol cellulose in the wet state is considerably softer and weaker than Cellophane and therefore much more difficult to put through the casting machine, and this probably means an inability to cast at anything like the speeds to which we are accustomed.

All of this means, in my opinion, that glycol cellulose has only a negative or nuisance value to us at this time.

We are going to make trials at Buffalo with Carbide and Carbon and they have assured us that their patent position is at least satisfactory enough to enable them to produce this sheeting without any infringement.

Under the circumstances, therefore, my judgment would be that we should tell Lilienfeld as diplomatically as possible that we are not in a position at this time to make any definite decision, that our experimental work will undoubtedly take at least six months to develop our possible interest in this product, and that if he is unable to postpone his negotiations for that length of time we will have to be counted out.

If Dr. Stine and Dr. Sparre agree with this, it would be my suggestion that you cable the London Office this decision.

Yours very truly,

M1494

LAY-ML

P.S. The above opinion is expressed in spite of the conviction that Carbide and Carbon have undoubtedly re-started their negotiations with Lilienfeld.

Defendant's Exhibit No. 638

Copy for: Mr. W.S.Carpenter,Jr.
Mr. M. du Pont Lee

Patents - [illegible]
Glycol-cellulose

Dear Walter:
Is this O.K.
I will not send it
until I have your
approval.. L.A.Y.

DU PONT CELLOPHANE

Cellophane is the Registered Trade Mark of Du Pont Cellophane Company, Inc. to designate its transparent cellulose sheets and films.

DU PONT CELLOPHANE COMPANY, INC.

EMPIRE STATE BUILDING
350 FIFTH AVENUE
NEW YORK, N.Y.

OFFICE OF THE PRESIDENT

January 16, 1934.

Dr. J.G. Davidson, Vice-President,
Carbide & Carbon Chemicals Corp.,
30 East 42nd Street,
New York City.

Dear Dr. Davidson:

[illegible] promised you over the telephone about ten days ago that I would report to you as soon as possible on the glycol cellulose situation, and I am hastening to do so at the earliest possible moment.

We are sure you will agree that our two companies have handled these experiments in an harmonious and entirely satisfactory way and in a manner which enabled us, we believe, to properly evaluate the results. We hope that you feel that we have given you fullest cooperation in this matter.

The results of all our trials and experimental work, examination of the patent situation, and a very sincere and complete effort to compare the physical and chemical properties of the two finished products, have brought us to the conclusion that we would not consider it advisable at this time to attempt to make any permanent arrangement with you for the manufacture of this product.

If we can be of any further service at any time in the future, do not hesitate to call on us.

Yours very truly,

L A Yerkes

M1495

LAY-ML

Defendant's Exhibit No. 639

FILE DCX-22

GLYCOL CELLULOSE AS A "CELLOPHANE" SUBSTITUTE:

Carbide & Carbon Chemicals Corp. apparently have a process for making Glycol Cellulose and inquired if we were interested in it for another source of transparent cellulose sheeting manufacture. This company is on pretty close terms with the duPont Company. It is understood they offered Sylvania their process and that latter were not interested. The matter was put up to us pretty much on basis that if we did not utilize this process, i.e. make a deal with Carbide, they would go into the business themselves and thus furnish another sheeting competitor.

We agreed to do some experimenting in co-operation with Carbide (see Project CX-232 in File DCX-6-3, under which we spent between 6/27/33 & 2/28/34 total of $8,311.) As a result of this, L.A.Y. decided we were not interested in the process and he so informed a Mr. Davidson of Carbide. The latter then admitted that their principal interest in Glycol Cellulose was in finding an outlet for Ethylene Glycol, and did not seem to be particularly anxious to enter into manufacture of Glycol Cellulose film themselves. L.A.Y. orally informed the Board at 1/26/34 meeting of our decision in the matter.

M-147-A

Defendant's Exhibit No. 640

4089

CARBIDE AND CARBON CHEMICALS CORPORATION
CARBIDE AND CARBON BUILDING
30 EAST 42ND STREET
NEW YORK

J. G. DAVIDSON
VICE PRESIDENT

L.A.Y.

November 13, 1934.

Mr. L. A. Yerkes, President
DuPont Rayon Company
350 Fifth Avenue
New York, N. Y.

Dear Mr. Yerkes:

As outlined in our conversation this morning, we would like to rather definitely know what interest, if any, the DuPont Company has in the matter of glycol cellulose.

This letter will serve to confirm the prices quoted on Ethylene Oxide and glycol cellulose. In the first case, assuming your consumption of Ethylene Oxide for the production of glycol cellulose would approximate five million pounds per year, we would be in position to quote you a price of approximately 20¢ per pound for tank car shipments, f.o.b. our plant at Charleston, W. Va. If it should so happen you would not be interested in making your own glycol cellulose but would prefer to purchase this product from us, we could quote you a price approximating 17¢ per pound. We would assume that the quantities would be very important, ranging from 10 to 50 tons per day.

If neither of the above prices are of interest to you, we would appreciate it, in order to bring the whole matter to a head, if you would advise us at what prices you would be interested either for the Ethylene Oxide or for the glycol cellulose.

With appreciation of the many courtesies you have shown us during our discussions bearing on this matter, I am

Very truly yours,

J G Davidson

JGD/mes

M1496

Defendant's Exhibit No. 641

Copy: Mr. E.K. Gladding.

B.M.M.

November 22, 1934.

Dr. J.G. Davidson, Vice-President,
Carbide and Carbon Chemicals Corporation,
30 East 42nd Street,
New York City.

Dear Dr. Davidson:

Since receiving your letter of November 15th we have again discussed this entire question of glycol cellulose, and I regret to say that I can only repeat to you what I have stated before, that we are simply not interested.

This may perhaps sound a little blunt and I assure you it is not meant in any sense in that way. I know that you desire a definite and direct answer from us, and this I am endeavoring to give you.

I appreciate very much the many courtesies which you have shown during these discussions.

Yours very truly,

LAY-ML

Defendant's Exhibit No. 642

Form 914* [illegible] 11-22

278

August 16,1923

Copy to:
W.C.Spruance,V.P.
L.A.Yerkes,Pres.

MR. F. R. SQUAIR
PATENT DIVISION

CELLOPHANE PATENTS

I just had a talk with Mr.Bissett of the snuff company who as you know are experimenting with the production of sausage skins from viscose. I was told quite definintely that they are working in accordance with Dr.Cohoe's process and patents and with his cooperation. Mr.Bissett stated that the patents under which they are operating are the following three United States patents:

1070776
1158400
1163740

Mr.Bissett believes that the patentees are Dr.Cohoe with one or two other co-inventors. Will you kindly obtain one copy of each for your files and also obtain one copy each and send to Dr.Rocker for the information of the Cellophane Company. As soon as you have received your copies of the above patents please send them up to me so that I may be able to look them over, whereupon I will return them to you. I will be very glad to have your comments on these patents relative to their possible bearing on our manufacture of cellophane also relative to the possible importance of these patents with respect to obtaining satisfactory new patents in the name of Mr.Brandenburger.

I also had an opportunity to ask Mr.Bissett some questions relative to the way glycerin is used. He stated very clearly that he presses his viscose solution through a dye into chemical baths and successively into several baths, finally washing thoroughly in water. From the last water bath the viscose skin goes between squeeze rolls for the purpose of eliminating most of the mechanically held water, and thereupon the wet viscose skins which are then in a soft or gelatinous condition go into a diluted glycerin bath. In other words, this introduction of glycerin is in entire accordance with Mr.Brandenburger's method. It would seem that this is a complete anticipation of Mr.Brandenburger's glycerin process but I do not know to what extent this particular operation has been kept secret by Dr.Cohoe, though according to Mr.Bissett this is the method which also was used in Canada some years ago.

FIN. SPARRI

M 601

FS:R

DIRECTOR

Defendant's Exhibit No. 644

Mr Spargo

cc: D. Sparre
L. A. Yerkes
B. L. May

A248 7
5653

E. I. DU PONT DE NEMOURS & COMPANY
(INCORPORATED)
DEVELOPMENT DEPARTMENT
WILMINGTON, DELAWARE

January 26,
1931

Mr. W. S. Carpenter, Jr.
BUILDING.

VISKING AGREEMENTS

Following my conversation with you this morning, I reviewed the Visking agreements with Mr. Spargo and we are agreed on the following points:

1. Freund (and/or Visking Corporation) is free to engage in the manufacture of sheet Cellophane for any use at any time, provided he does not infringe Cellophane patents.

2. Freund (and/or Visking Corporation) will be free, after Cohoe patents expire in 1932, to sell Visking tubing for use in any field, unless Cellophane Co. applies for improvements on Cohoe patents, or unless Visking is using at that time secret information which it obtained from the Cellophane Co., either of which would have effect of extending license period during which Visking is confined to sausage casing field.

3. Cellophane Co. is free at any time to manufacture and sell seamed sausage casings, provided it does not infringe any Visking patents or either of the unexpired Cohoe patents, and provided also it does not utilize any secret information which it obtained from the Visking Corporation.

4. Cellophane Co. will be free, after Cohoe patents expire in 1932, to manufacture and sell seamless sausage casings, provided it does not infringe any Visking patents, and provided also it does not utilize secret information which it obtained from the Visking Corporation.

I attach for your information an abstract of the agreements in question.

W. J. Beadle
W. J. BEADLE

M. 34.

Assistant Director.

WJB/wcd
enc.

P. S. It should be noted that even though the Cellophane Company should manufacture sausage casings in competition with Visking it will still be under the obligation to exchange technical information unless the agreement of October 20th should be terminated by mutual consent. W.J.B.

Defendant's Exhibit No. 645

THE VISKING CORPORATION

6733 WEST SIXTY FIFTH STREET

CABLES SYNTH CHICAGO TELEPHONE PORTSMOUTH 8200 CODES BENTLEY ACME

CHICAGO, ILL.

CLEARING STA.

NoJax
Chinese Frankfurter
Casings

OFFICE OF
THE PRESIDENT

VISKING
Sausage Casings

May 25, 1942

L.A.Y.

Mr. Benjamin M. May
Room 2414 - Nemours Building
Wilmington, Delaware

Dear Mr. May:

I am attaching hereto copy of the letter which I finally sent to Judge Jerome N. Frank.

The correspondence with the W.P.B. regarding limitation of our sales to the meat food industry will follow, probably tomorrow, after it has been gathered and copied.

Sincerely yours,

THE VISKING CORPORATION

F. O. FREUND
PRESIDENT

FOF LC
encl.

Defendant's Exhibit No. 6454

noted F.S.

May 12, 1942

Judge Jerome N. Frank
United States Circuit Court of Appeals
New York, New York

Dear Jerome:

Please don't think from the length this letter is going to reach that I am trying to write your article on patents for you. On the contrary, I have to ask you, if you find any use for my material, to use care not to cite me or my company as examples nor to describe our product sufficiently to identify it. As you know from Dave Silberman, we have an appeal pending before the Circuit Court of Appeals for the 4th Circuit, and I wouldn't want the remotest possibility of any impression that we were trying to influence the judges of that Court. I suppose it makes a difference whether your article is to be long or short, and whether it will be published in one of the law school journals or some popular magazine. At any rate, I'm going to rely on you not to get us in trouble. All of us have enough of that nowadays without going out for it.

I hope it will be convenient for you if I divide my letter roughly into two parts: one historical, the other discussion.

I have written the history of our Company before, but my recollection of these articles is that they would not suit your request, so I am not searching for them.

C-5278-E

My high school and college years were spent specializing as a mediocre student in chemistry at Armour Institute of Technology and the University of Chicago. In the year 1907 I was employed by the company of which my father was a partner (later the president), S. Oppenheimer and Company, animal sausage casing dealers and manufacturers. My jobs were variously office boy, assistant shipping and receiving clerk, order clerk, and skilled factory laborer. I learned the factory skill by being sent around to our several cleaning places at Indianapolis, Cedar Rapids, Ottumwa and Marshalltown. Later, I became sort of chief production clerk, assistant merchandise inspector and, occasionally to fill in for absentees, I was on the road selling. All of these experiences brought me to the conclusion that animal sausage casings were very defective and unsatisfactory to the buyer. As receiving clerk, much of my time was spent in checking in returns. As order clerk I was often making out orders for replacements. At the factories I learned of the impossibility of making complaint-free merchandise, and on the road, I came into direct contact with dissatisfied customers.

The next step in my education was a term of about two years in London to learn the English business. Here my previous opinion of the quality of animal sausage casings was still further confirmed, and I decided to try to do something about it. I spent my nights in my bedroom experimenting with the making of artificial (or synthetic) sausage casings. As my bedroom was actually a rebuilt third floor attic, I believe I can lay claim to having been "a garret inventor." With the meager facilities and time at my disposal I made no progress, but when my term in London was completed and I returned to Chicago in 1912 I was still fired with the desire to make an artificial casing.

In Chicago my previous education in chemistry proved useful. I spent every noon at the John Crerar Library, in lieu of eating lunch, and set up a secret laboratory in an unused toilet room on the second floor of our warehouse. I experimented with every type of film forming material I could learn about - Gliadin, casein, mother of vinegar, rubber, collodion - I can't remember the half of them. Along about that time I ran onto the work of Cross and Bevan in London. This was their discovery of viscose. I tried, with my limited knowledge, to duplicate their process but got very poor results. Then one day I did produce a short seamless tube of collodion (cellulose nitrate) which I carefully stuffed with sausage meat, and in the flush of my excitement I presented the whole thing to my father as a revolutionary idea, with a request for funds to proceed further. He held the matter under advisement for a few days (looking back now, I think he must have consulted his associates), and then ordered me to drop the matter.

Of course I did not drop the matter, but thereafter I kept my own counsel. I corresponded with Cross and Bevan, but because of the war and also their failure to comprehend the extent of the casing market, I could not arouse their interest. I continued my experimental work at home and tested my unsatisfactory results at sausage factories where I was not known.

Sometime in 1915 I conferred with Dr. Julius Stieglitz, my former professor of chemistry at the University of Chicago. He suggested that I negotiate with the Mellon Institute of Industrial Research in Pittsburgh. This I did through Dr. E. R. Weidlein, and during that year I endowed my first fellowship there at a great financial sacrifice to myself and family. I wore out the first fellow who got the assignment, as well as the one

who succeeded him. In the meanwhile I wore out my own resources. I used most of my income and all of my reserve on the research, and only by setting up a program of most rigorous self-denial for Rosalind and me was I able to carry on. In 1920 William F. Henderson was awarded the fellowship and later he secured, as an assistant, Harold E. Dietrich. Progress under these two fellows was good, and for the first time I began to feel that all of my sacrifices might still produce results. Like all inventors, I knew that if I were successful I would make a million dollars. I had many conferences with Dr. Henderson and gave him suggestions, support and encouragement. In a meeting at the Mellon Institute a few years ago, Dr. Weidlein introduced me to the several hundred participants as the outstanding example of a donor who could get an impossible problem solved by refusing to acknowledge defeat, and who came up with new ideas when everything preceding had ended in failure.

In 1921 I resigned from S. Oppenheimer and Company. My father had died a few years before. The research progress at Pittsburgh had not developed sufficiently to give me a product that could be sold, so I took the office of Vice President of the Independent Casing Company. While there, in 1925, a product that seemed to have promise as a casing for frankfurters was developed for me at Pittsburgh by the fellows.

I have gone this much into detail prior to any patent application to try to illustrate how much effort, sacrifice, time and perseverance can go into an invention before it becomes a patent. Fifteen years of self-denial and disappointment before there was one inch of satisfactory casing - and it could all just as well have ended in failure. Nobody guaranteed me success but because I had an intimate knowledge of the

animal casing business I was sure I could "make a million dollars" out of my idea, so I kept right on trying.

When a patent was applied for we secured one, but it was not adequate because we found older basic patents issued to Cohoe Fox and Acton for cellulose sausage casings. These patents had been used a very little experimentally in Canada some years before, we learned, but because the product was not acceptable they were no longer in use and had been assigned to others. It was with some difficulty that we traced the ownership of the patents to du Pont Cellophane Company.

Then followed a series of negotiations with du Pont, based on my contention that a satisfactory frankfurter casing could not be made without our patent, and an admission on my part that we needed the Cohoe patent to avoid infringement. Because in those days I, too, had fears that the large corporations would steal the shirt right off ~~the back~~ of a helpless inventor, I enlisted the aid of your ex-associate, Salmon O. Levinson. I was a pleasant surprise to me to find du Pont courteous, fair and cooperative. We came to an agreement and worked out a license agreement. In drawing it I can recall that it was I who made all the demands, not du Pont. They never sought a provision which they were not willing to give me the counterpart of. The final agreement provided that du Pont gave me an exclusive license for sausage casings, not only under the Cohoe patent, but under all of their patents. On my part I gave du Pont an exclusive license for non-casing uses under our patents and applications and a small interest in the voting common stock of a company to be formed. They received none of the preferred stock. Mutually we were to exchange technical information and assistance. I think it is worthy of note, first that du Pont accepted a comparatively small interest

without any cash requirement or royalty in exchange for their basic patents, and secondly that all this was done before a company had been incorporated or any commercial equipment installed.

I have never examined the contract since the day it was signed back in 1925, nor do I think du Pont have either. It was the most fortunate event in my whole life. Du Pont have more than fulfilled their contractual obligations and have never in the slightest degree taken the least advantage of me or my company. They saved us years of effort through their technical assistance. They generously transferred experienced and skilled men to our company (our vice-president and treasurer, our plant superintendent, and our shops supervisor came directly from du Pont). Their Engineering Department aided us in the design and construction of our original plant and of our new plant. Technical information has flown to us steadily without demand from us. Their representative on our board of directors has been of great aid to us, and it would now be a severe loss to us should we ever be deprived of his services. Du Pont, on the other hand, have graciously stated that they too have received valuable contributions from us, and while I can't see the basis for that acknowledgment I hope it is true because we certainly owe it to them.

In my enthusiasm for our experience with du Pont, I got ahead of my story. Early in February 1926 I terminated the fellowship at the Mellon Institute, moved the equipment to Chicago and started to carry on from there under the newly incorporated Visking Corporation. I found the transition from laboratory success to commercial operation a bigger step than from zero to laboratory success.

C-5278-E

It was not until the late summer of 1926, after I had left Independent to devote my entire time to Visking, that we produced enough material to make any sales approach, and when we did we met with complete rejection. However, later in that year I discovered the way of making skinless frankfurters through the use of our casing and patented it. That was probably the turning point in our career, although we did not get out of the red for some years. Twice more we had to sell additional stock when we ran out of money, and on these two occasions, in addition to cash produced by Dave, Hubert and myself du Pont purchased and paid for their proportionate share.

We did make some sales and we increased our line by adding more sizes of frankfurther casings and other casings for larger sausages like bologna, salami, etc. All this time our technique was improving and we invented many processes and machines, patenting those that we could. Along in 1929, after a great amount of research and work with others, I invented a preprinted cellulose sausage casing which would withstand all the steps of processing and handling sausage. This put a great impetus on our "large" casing business. We almost immediately went out of the "red"? Today about 85% of our large casings are preprinted. Preprinted casings give identification and advertising right at the point of sale of the encased products. They enhance the appearance of the sausage and the public recognizes the printing as a guarantee of quality. The meat inspection division of the Bureau of Animal Industry quickly took advantage of preprinted casings by regulating that its requirements be printed on the casing.

With increased sales and improved technique our costs steadily declined and we began to make money. With the money we were able to

buy better equipment and still further reduce our costs. That permitted us to lower our prices and increase our sales - a "vicious circle" in reverse. We reduced our price eighteen times in fifteen years, while at the same time increasing wages and improving working conditions. In 1926 we sold our frankfurter casing for $30.00 per 100 and lost money. In 1942 we sell the same thing for $6.45 and make a profit. In 1926 our workers got 56¢ per hour and we were in the red. Today they get $1.02 per hour and we make money. Besides their regular pay they share in the profits through the Visking Wage Dividend Fund, they get vacations with pay, they receive disability wages in full when they are ill, they have the benefit of a nurse and physician in a miniature hospital right on our premises, they and their dependents may subscribe for a group hospitalization plan for which the company pays part of the cost. We have had a forty hour week since years before the Wages and Hours law. Working areas are clean and well ventilated. Locker rooms and toilet rooms are the equivalent of those found in a good country club.

All these years we had the competition of animal sausage casings. In about 1935 the Transparent Package Company, Chicago, an offshoot of Oppenheimer Casing Company, started as competitive manufacturers of cellulose sausage casings and, in our opinion, they infringed our patent for preprinted sausage casings. Suit was instituted, but before the matter came to trial a settlement was reached whereby we gave them licenses under all of our patents but they were, by contract, restricted from making or selling some items until a future date.

This action was taken only after considerable thought. In trying to market our cellulose sausage casings we were bucking the opposition of the meat packers who wished to sell their own animal casings, and we

were also bucking the natural resistance with any trade offers to a radically new type of product. We were faced with considerable opposition in the trade because we were the only source of supply and many sausage manufacturers hesitated to adopt our product for fear that, once they had adopted it and the public had come to demand it, we would take advantage of them by increasing prices. We saw in Transparent Package Company a way of overcoming these objections, as it would provide at least a second source of supply and possibly double the number of missionaries (salesmen) preaching our gospel. To do this successfully, Transparent would have to make as good a casing as Visking (which they were theretofore not doing) so that the new casing might not get a bad reputation in the trade. Consequently we concluded to give them a license under all of our patents. Prices at which the products could be sold were to be fixed by us. The list of counsel which assisted in drawing up the agreement was impressive: Salmon O. Levinson of Levinson, Becker, Peebles and Swiren; Theodore G. Remer of Remer and Shapiro; Russel Wiles of Dyrenforth, Lee, Chritton and Wiles; Wallace Lane of Parkinson and Lane; and Carlos A. Spiess of Mayer, Meyer, Austrian and Platt. Every effort was made to have the agreement both legal and ethical.

At about the same time still another competitor appeared - Sylvania Industrial Corporation, Fredericksburg, Virginia manufacturers of transparent cellulose sheeting similar to Cellophane. We offered Sylvania a license on the same conditions as Transparent, but it was declined. We then entered suit for the infringement of four of our patents, in the United States District Court, Eastern District of Virginia. In April, 1941 the Court handed down an opinion holding all patents in suit valid and infringed but denied us relief because he found us misusing our patents

and had violated the anti-trust laws. We immediately set out to purge ourselves of those things criticized by the Court, and in December 1941 a supplemental hearing was held and additional testimony taken. In March the Court held that our purge was complete and granted us an injunction together with damages from the date the purge was completed. The injunction was stayed pending an appeal. Sylvania have since filed an appeal, and we have filed a cross-appeal from those parts of the decree with which we are not satisfied.

That's my story from the invention and patent angle. I think it shows rather clearly that the satisfactory results were obtained by perseverence, but that the results might also have been negative in spite of perseverence. I was not an "outsider". My whole life had been spent in a casing atmosphere. My grandfather was in that business before I was born. I knew what the requirements of the industry were and sought to attain them. I would not say I was adequately financed. Progress might have been more rapid had I been able to finance the fellowships more liberally. But the fact that I was not of unlimited means probably supplied the urge to continue the work. I wanted to make the million dollars. And yet there would have been no point in continuing to work, in continuing to make sacrifices, in continuing to go into debt if at the end of the road I could not have seen big old Uncle Sam to protect me from others who would grab the results of my spade work before I had a chance to recover from my effort. But even Uncle Sam wasn't going to hold that umbrella over me for nothing. The invention was mine, secured by the sweat of my brow. So is my house mine, and the law will protect me from having it taken from me forever. But with my invention Uncle Sam says: "You can have it to yourself

provided after seventeen years you invite the whole world to come in and live with you." This is all right. I'm not finding fault with it, but I don't hold with the politicians or some of the jurists that the Government is giving the inventor something when it grants a patent, and that this something is much too valuable and should be viewed with suspicion. It is the inventor who is the donor, not the Government. An invention may have value which a newly granted patent enhances but which an older patent depreciates. If an invention has no merit, patent adds nothing to it. In the course of our experience literally dozens of inventors have offered to sell us their inventions. Most of them have been worthless in our opinion, but a few had some value. We have paid as little as $500.00 and as much as $100,000.00, but I have yet to run across an inventor who did not think his idea was worth a million. Our present patent attorney who has had years of experience tells me the same thing. There does not seem to be any question but what it is the million dollars that prods the inventor.

Or course the investor wants patent protection too. With a new item he is in the same position as the inventor, in that they both need time for the commercialization of the idea. Frequently (as in my case) the inventor and the investor are one and the same person. It would be unfair to require the investor to put up the money and take all the risk of failure if others without effort or danger could immediately benefit after success in making and marketing were assured. And at that, the patent protection is neither as long nor as good as might be hoped for. It was back in 1913 that Cohoe invented the first cellulose casing. Eleven years later when he sold his patent he still hadn't made it a

success and after we came along with improvements, another several years went by before anyone made a profit. Clyde J. Coleman's patented self-starter was acquired by Delco, but twelve years after the patent was granted only 200,000 had been sold. General Motors had less than five years useful monopoly out of the purchase of that patent. But no one will deny that it was a great public benefit.

On a smaller scale we have been of public benefit, too, which we couldn't have been without patent protection. We are giving continuous employment to over 1100 employees. We are delivering casings of superior quality at prices lower than ever before in the history of our country, and have made American independent of imports. On a recent order for canned viennas the armed forces saved $60,000.00 by buying Visking processed goods. In the last war animal casings went up 500%. This time, because of us, they have risen slightly, if at all. This saving to the American public is over $8,000,000 a year on frankfurter casings alone. Don't you think Uncle Sam made a good bargain when he gave me a patent? And do you think the public should begrudge me the money I made in the course of the years? Or the money the Silbermans made through their investment and faith in me? Or the du Ponts for their aid?

What are the abuses of patents the publicity boys are talking about? There are many reasons why large corporations do not utilize new inventions for which they have patents, either developed by themselves or acquired. Many inventions are years ahead of their times and the art is not ready to adopt them. Many inventions require scrapping of millions of dollars worth of old equipment for new, and often, in addition, changing the process back to the beginning or changing the later part of the process after the patented invention has done its part.

I am positive that the American Telephone and Telegraph Company has many important inventions which, if they were just starting business, would be very beneficial to the public and might save them some money, but to install the systems of any such inventions would require scrapping of millions of dollars worth of equipment, changing old practices, and causing endless confusion to the telephone subscriber in the change-over of equipment without giving enough benefit to the public to warrant such sacrifice.

Our attorney told me of a friend who invented an automatic train control which was very much needed by the railroads. The detailed apparatus which he required to go in the cab of each locomotive would take up a space of 2 x 3 x 5 feet. In other words, in a box the size of the largest sample trunk. There was no place in the cab of a locomotive for such a large piece of apparatus, nor was there any place on the tender where such apparatus could be maintained. The apparatus was needed to amplify the weak signals received in the track circuit to a strength necessary to give a positive signal in the cab and to furnish enough energy to throw a switch to operate the apparatus which would shut off the steam and apply the brakes automatically. You can appreciate that any signal in the tracks which was not powerful enough to injure any person or animal coming in contact therewith would indeed be weak, since there was a lot of opportunity for most of the electrical energy to escape from the rails to the ground. It was not until the audion amplifier of the radio circuits was developed that this invention became of any importance. By use of the audion amplifier, extremely weak circuits could be magnified sufficiently to give a signal in the cab and be sufficiently strong to throw the switch to operate the throttle and the brakes.

C-5278-E

When this amplifying tube was discovered (which was another invention of the radio art), it was found that the necessary apparatus to operate the automatic train control could be contained in a box about the size of a portable radio. Of course, this could be located in the cab of a locomotive and train control became possible.

In our suit against Sylvania the Court held that our limiting our printers to the printing of our casings was a misuse of patents because it tended to create a limited monopoly on an unpatented article (plain unprinted casing - patent expired). None of us here understood that to be the law. The printers were our agents. They did not buy the casings from us. They were acting in our behalf as much as if we were doing our own printing. We could not afford to have our goods confused with those of a competitor. There are thousands of printers in this country. It was not necessary for a competitor to try to have his printing done at the one place we had previously selected.

The Court held that our contract giving us the right to fix the price below which Transparent could not sell plain unprinted casings even though they were made by our patented processes and machines was a violation of the Anti-Trust Laws. This apparently is a recent concept in law. It was not the concept when the contract was drawn. In my opinion the new view is another move to nullify patent protection, but that it is not in the public interest. Suppose I have a shoe factory - capacity 1000 pairs a day. My competitor A has a similar factory. Our costs are the same, $3.00 per pair, and we both sell at $4.00. I invent a machine which cuts my cost to $2.00 and reduce my selling price to $3.00. I have only a capacity of 1000 pairs and the demand is for 2000 pairs. A is in a quandry. He can't meet my price without going broke

and he's in danger of my enlarging my factory if he doesn't. So he comes to see me to get a license. Now I'm in a quandry. If I give him a license he may sell his shoes at $2.75 and force me to lose all the money I spent to develop my machine. He may invent an improvement to my machine so that his cost goes down to $1.75 and he (the ungrateful cuss) refuses to give me a license and cuts his selling price to $2.00 and now it's my turn to go broke.

So I say to A: "Okay, you can have your license provided you agree that during the life of my patent you will not sell any shoes you make with my machines for less than my price."

A benefits by not being put out of business. The public benefits because it gets 1000 pairs of shoes a day for $1.00 less. I benefit because I get the royalty A pays me. But I might under some circumstances get another benefit I hadn't counted on. I might get a nice all-expenses-paid vacation in Leavenworth.

The record is very clear that du Pont, in our case, did everything in the world to assist us, without any motive other than a future possibility of a profit. We could have failed and it would not have cost them a cent. They had no investment in us. I am informed that du Pont assumes a very friendly attitude toward all inventors and corporations seeking their help even though in most instances they take no financial interest in the corporations. Du Pont is also very liberal in licensing their patents to their competitors.

To those who are trying to destroy our patent system there seems to be something very reprehensible about a corporation acquiring the patent rights to inventions made by its research employees. Many of

C-5278-F

our patents are based on inventions made in our own laboratories by men who were hired specifically to do research work. They have steady jobs at good pay. They work in quarters provided by us, with materials provided by us and on ideas provided by us. They may work on one problem a year, two years or ten years. Ninety-nine times out of a hundred their results have no commercial value. Whatever they might develop would be ours the same as the casings made in another department by other employees are ours. We might make a million dollars out of a discovery, but the chemist who made it would be pleased to have been successful, not resentful as some would have us believe. He took the job and his salary in the hope of just such result.

That's about all. I've written too much, I think. But if it has been a bore, please remember - you asked for it.

Best regards,

Erwin O. Freund
rp

Defendant's Exhibit No. 646

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
EMPIRE STATE BUILDING
NEW YORK, N. Y.

CELLOPHANE DIVISION

PERSONAL

TO: R. E. T. HAFF
WILMINGTON

FROM: G. H. ANDREWS

October 16, 1943

CASINGS

Would there be any possibility of your making viscose casings for us to sell abroad to the meat packers and others.

Visking sell their casings in the states and abroad but I don't believe they have much of a foreign business.

Sylvania also make casings but I don't recall that they have done much abroad.

GHA:plm

C239-A1

Defendant's Exhibit No. 647

6348-b

PATENTEES OF
No Jax
Skinless Frankfurters

THE VISKING CORPORATION

4311 JUSTINE STREET
UNION STOCK YARDS

CHICAGO, ILL.

TELEPHONE YARDS 4870
CABLES SYNTH

Oct. 1, 1929.

B.M.M.

Mr. B. M. May,
% Du Pont Cellophane Co., Inc.,
2 Park Avenue,
New York City, N.Y.

Dear Mr. May:-

Mr. Eiror was in Chicago last Saturday and he offered me one million dollars ($1000,000.00) for a controlling interest and an employment contract at thirty thousand dollars ($30,000.00) a year. I declined the offer, so that the matter is still in abeyance. He is supposed to consult his principals to see how much better they are willing t. do.

I am somewhat handicapped in my conversations with him by not knowing what the Du Pont organization would do. Are you prepared to tell me what you would pay for nine thousand (9,000) shares, which would give you the control? As I have mentioned to you many times before I would vastly prefer to remain associated with your organization, but I would not want to do so at a very great cost to myself. Your prompt response will be appreciated.

Yours truly,

THE VISKING CORPORATION

E. C. FREUND
PRESIDENT

EOF LH

Defendant's Exhibit No. 648

THE VISKING CORPORATION

4311 JUSTINE STREET
UNION STOCK YARDS

CHICAGO, ILL.

TELEPHONE YARDS 4
CABLES SYNTH

October 5, 1929.

Mr. B. M. May,
% Du Pont Cellophane Company, Inc.
2 Park Avenue,
New York City, N.Y.

Dear Mr. May:-

It is hard for me to keep my agreement with you to write you this week as the wires are still hot with negotiations with Mr. Firor. You must understand the difficulty of my position where I am trying to retain the good will of our best customer while declining his offers and at the same time safeguarding the interests of the minority stockholders if his offers get to a point where I cannot ignore them. And still further trying to determine the best course in the interest of the Visking Corporation.

I have decided that the very lowest offer I would accept from Mr. Firor would be $100 per share. Whether he will offer this price or not remains to be seen, but I think he will as I have asked him much more and still negotiations continue. Should he fail to reach this figure nothing will be done with him under any circumstances.

However, as I have told you before, I am anxious enough to remain associated with the Du Pont organization and also to retain a stake in the Visking Corporation to do so at a considerable financial sacrifice to myself. My proposition, then, is this:

I will sell you 9000 shares of Class A stock for a lump sum of seven hundred and fifty thousand dollars ($750,000.00) provided that you will make a contract with me to retain me as president of the Visking Corporation for a period of ten years at a salary of thirty thousand dollars ($30,000.00) per year. As in my dealings with the other parties I have attempted to protect the other stockholders, so in this case, also, some provision should be made to prevent the freezing out of the minority.

M 3415

PATENTED OF
No Jax
Skinless Frankfurters

THE VISKING CORPORATION

4311 JUSTINE STREET
UNION STOCK YARDS

CHICAGO, ILL.

TELEPHONE YARDS 41
CABLES SYNTH

October 5, 1929.

Mr. B. M. May cont'd.

I know it is not the desire of either of us to haggle or wrangle over this matter. If my offer is not acceptable to you there will be absolutely no hard feelings and we can (if no deal is made with Mr. Firor) continue exactly the same as we have before. On the other hand, if my proposition is acceptable to you I would appreciate your very early advice so that I can cut off the other negotiations.

I need not tell you of the steady growth of our business as you have all the figures. September was the biggest Western month we ever had, due largely to the immediate popularity of our large casing. We are on the eve of being able to print these casings which ought to take us out of competition with the natural casing.

With kindest personal regards, I am

Yours truly,

THE VISKING CORPORATION

E. C. FREUND
PRESIDENT

EOF LH

Defendant's Exhibit No. 649

6346.

October 7, 1929.

Mr. E. O. Freund, President,
The Visking Corporation,
4711 Justine Street,
Chicago, Ill.

Dear Mr. Freund:

Yours of October 5th offers to sell us 9,000 shares of the Class "A" stock of the Visking Corporation for $750,000. The proposition does not appeal to us. It is our feeling that the Corporation itself is in need of more capital funds to retire its indebtedness to the banks, to wipe out its deficit and to get in a position to pay dividends on the preferred stock so as to present more immediate prospects for the common stockholders.

Our thoughts in a general way were that we might be able to work out a plan whereby you would sell us a portion of your stock at a figure to be agreed upon and effect an arrangement with all the stockholders so that they would consent to increasing the total number of shares in a certain amount, the purchase of which by Du Pont would give the latter control. This would involve, too, the necessary agreements from all the stockholders that this new or increased amount of stock would be sold to Du Pont. In other words, they would waive their rights to their pro rata of the new or additional stock.

Both you and Mr. Firor are in a better position to appraise the future prospects of the business than we are. This is obvious from the very nature of your contacts. Our position, therefore, is that while we probably would be interested in continuing to assist in developing the business and making such contributions in money and services as would appear to us as necessary, we can hardly see our way clear, from the past and present state of the business, to pay what we would regard as a speculative price.

We naturally feel that the question of the sale of your personal holdings is one upon which you must make the decision. Any important change in the control of the Company would quite naturally bring with it considerations by us as to our future position after having an opportunity of determining the policies of the new controlling interests.

63464

It would appear that you must decide as to your negotiations with Mr. Firer and after these are disposed of we can discuss the situation further.

With thanks for the frank way in which you have stated your position, we are

Yours very truly,

BMM-HL

VICE-PRESIDENT.

FILE COPY

N 3414

Defendant's Exhibit No. 650

PATENTEES OF
No Jax
kinlessFrankfurters

VISKING IS THE REGISTERED TRADE MARK OF THE VISKING CORPORATION
TO DESIGNATE ITS CELLULOSE SAUSAGE CASINGS AND TUBING

THE VISKING CORPORATION

4311 JUSTINE STREET
UNION STOCK YARDS

TELEPHONE YARDS 4870 CABLES SYNTH CODES BENTLEY ACME

CHICAGO, ILL.

Jan. 16, 1931

PATENTEES OF
VISKING
Sausage Casings

Mr. B. M. May,
% Du Pont Cellophane Company, Inc.
20 Park Avenue,
New York, N.Y.

Dear Mr. May:-

I did my mental calculating a little too rapidly and a little too poorly yesterday. The price I mentioned that I would like to take under advisement for 10,000 shares of our stock was a little too low to work out properly. The proper price, as I figure it, of 10,000 shares based on last years business is $240.00, but if your company will make an offer of $200.00 open for my consideration and at the same time waive any claim they might imagine they have on Class B stock, I believe I would be inclined to accept it. I have not mentioned either matter to the Silberman's as yet.

If you can send me your opinion to Florida promptly, it would, I believe, assist both of us to conclude this matter on my arrival in New York. I am sure you agree with me that it should not remain unsettled any longer.

My address for the next week at least will be %Belleview Biltmore Hotel, Bellair, Florida.

With kindest regards, I am

Yours truly,

THE VISKING CORPORATION

E. O. FREUND
PRESIDENT

EOF LH

M3-15

Defendant's Exhibit No. 651

0344a

CC: MR. [illegible] M. HORSEY

Mr. Yerkes
Sh Committee

January 19, 1921.

Mr. W. J. Beadle,
Development Department,
E. I. du Pont de Nemours & Co.,
Wilmington, Del.

Dear Sir:

I was in Chicago on the 15th and Mr. Freund brought up the question of whether Du Pont was interested in obtaining control of the Viskin Corporation. I told him that his idea of the price, namely, $[illegible] per share was to my mind actually absurd and so long as he was in that frame of mind and entertained ideas of that sort, there was no use of even discussing the matter.

He then said to me that if we regarded his price as being so absurd, he would like us to mention a price to see if he could think that we were as equally absurd in his opinion. I told him that I had thought it over a good deal personally and that any figure that I named him would be purely on my own responsibility and would not necessarily be one that my principals would agree to. I told him that this figure was $125. per share. He countered by saying that he thought that figure was absolutely impossible. I told him then to forget it. Subsequently he asked me if I would name or recommend a price of $160. per share. My answer was that I didn't see how I could after having made up my mind that $125. per share was my idea of a price. When I left him I was pretty well convinced that a price of $160. per share could be agreed to. Naturally I was very much surprised when I received his letter of January 16th, copy herewith. I have answered that letter today as per enclosed copy.

Freund is expecting to be back from a vacation shortly after the first of February and he will stop here on his way to discuss the matter. In the meantime, I

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6344a

think we should come to some final conclusion. Our Board meets on Tuesday, January 27th and if it is possible for you to get your recommendation together by that time, I think it would be desirable to do so.

Very truly yours,

VICE-PRESIDENT

FILE COPY

M 3406

Defendant's Exhibit No. 652

EXTRACT FROM MINUTES OF MEETING #20 - DU PONT CELLOPHANE CO.

BOARD OF DIRECTORS

January 27, 1931

VISKING CORPORATION:

Report was submitted from the Parent Company's Development Department to L. A. Yerkes, President, dated January 24, 1931, in connection with our possible interest in acquiring control of the Visking Corporation, in which Du Pont Cellophane Company, Inc. now holds 20% of the Voting Class "A" Common Stock. After detailed discussion, it was the sense of the meeting that our ideas of price for acquiring control was so remote from that of E. O. Freund, President of the Visking Corporation, that we should withdraw from the negotiations at this time. The Chairman requested Vice-President B. M. May, who is also a member of the Board of Directors of the Visking Corporation to accordingly advise Mr. Freund.

M 3404

Defendant's Exhibit No. 653

PATENTEES OF
"NOJAX"
Skinless Frankfurters

OFFICE OF
THE PRESIDENT

VISKING IS THE REGISTERED TRADE MARK OF THE VISKING CORPORATION
TO DESIGNATE ITS CELLULOSE SAUSAGE CASINGS AND TUBING

THE VISKING CORPORATION

6733 WEST SIXTY-FIFTH STREET

CABLES SYNTH CHICAGO TELEPHONE HEMLOCK 6200 CODES BENTLEY ACME

CHICAGO, ILL.
CLEARING STA

March 30, 1937

PATENTEES OF
"VISKING"
Sausage Casings

Mr. B. M. May
c/o E. I. du Pont de Nemours and Company
"Cellophane" Division
Empire State Building
New York, New York

Dear Mr. May:

Your letter of the 24th got side-tracked when I sent it over to our Personnel Department for attention. I am informed now that they wrote Trentman and are sending him an application blank.

I am glad you enjoyed your visit here. There really wasn't a great deal to be done. I hope you can come again in the summer and see our country place while we are living there.

I have been doing some thinking about the question you asked me regarding selling to Du Pont. I wonder if Du Pont would care to make an offer. I think I would be willing to sell on a basis which would bring me the same income as I am getting now. I believe Du Pont Common is now on a $6.00 dividend basis. This is practically the same as Visking.

Let me hear from you about this.

Very sincerely,

E. O. FREUND

EOF LH

3484

Defendant's Exhibit No. 654 A

(DUPONT)
Established 1802
E. I. DU PONT DE NEMOURS & COMPANY
Incorporated
EMPIRE STATE BUILDING
NEW YORK, N. Y.

RAYON DEPARTMENT
Comprising
ACETATE DIVISION
CELLOPHANE DIVISION
RAYON DIVISION

April 8, 1937

4/12

Mr. E. O. Freund, President,
The Visking Corporation,
6733 W. 65th Street,
Chicago, Ill.

Dear Mr. Freund:

I have yours of March 30th. I interpret your letter to mean that with Visking on a $6.00 basis you would regard its value to be somewhat comparable to Du Pont, which in 1936 was also on a $6.00 basis. I am quite sure Du Pont would not take that view of it. That being the case maybe you would like to make an offer. If you prefer not to, no misunderstanding will arise.

Yours very sincerely,

B M May
ASSISTANT GENERAL MANAGER.

BMM:HL

U-144

Defendant's Exhibit No. 655

6338

"VISKING" IS THE REGISTERED TRADE MARK OF THE VISKING CORPORATION TO DESIGNATE ITS CELLULOSE SAUSAGE CASINGS AND TUBING

PATENTEES OF "NOJAX" Skinless Frankfurters

THE VISKING CORPORATION

6733 WEST SIXTY-FIFTH STREET

CABLES SYNTH CHICAGO TELEPHONE HEMLOCK 8200 CODES BENTLEY ACME

CHICAGO, ILL.
CLEARING STA

PATENTEES OF "VISKING" Sausage Casings

April 12, 1937

Mr. B. M. May
c/o E. I. du Pont de Nemours and Company
"Cellophane" Division
Empire State Building
New York, New York

Dear Mr. May:

In reply to your letter of April 8, as long as you feel quite sure that Du Pont would not consider Visking stock as about of equal value to its own, I would be unable to make any offer I really can see no reason for me to get into any situation where I would make a trade resulting in a smaller income from the stock than I am now enjoying.

Sincerely yours,

E. D. FREUND

EOF LH

P. 3403

Defendant's Exhibit No. 657

DU PONT
ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON 98, DELAWARE

RAYON DEPARTMENT
COMPRISING
ACETATE DIVISION
CELLOPHANE DIVISION
NYLON DIVISION
RAYON DIVISION

April 30, 1946.

Mr. E.G. Ackart, Chief Engineer,
Engineering Department.

Dr. E.B. Benger, Manager,
Technical Div., Rayon Department.

Mr. T.L. Hines, Manager,
Cellophane Div., Rayon Department.

For a number of years there existed a technical agreement between our Company and The Visking Corporation for the general exchange of information in the field of viscose. During its existence the exchange of information was quite free and visits were made quite informally by representatives of the respective companies to plants and laboratories of the two parties.

Some months ago this formal agreement was cancelled, as a result of which these exchanges cannot be made as in the past, and I am writing to ask that you inform your personnel of this fact and that you bring to my personal attention any requests made of us by Visking, or the desire of any of our people to make requests of them.

Sincerely B. M. May

BMM-ML

M547

Defendant's Exhibit No. 658

F. L. CARLISLE & CO., INC.
15 BROAD STREET
NEW YORK

October 16, 1929.

Mr. B. Gordon, Jr.,
Skenandoa Rayon Corporation,
Utica, N. Y.

Dear Beirne:

I told Schurman today of the decision of Skenandoa Rayon Corporation turning down Wolff's proposition regarding Transparit. I put our decision to not go ahead with them entirely on the basis of the inadequate return on the amount of capital which in our opinion it would be necessary to employ in the business. I told him that we concluded it would be necessary to have $1,500,000 to successfully carry on this business and that with a margin of profit not greater than 25¢ per pound before overhead, the proposition could not be considered further.

Mr. Schurman was anxious to know if there were any other manner in which an alliance between Wolff and Skenandoa could be worked out. I told him that I would endeavor to make an appointment for him in Utica with you and Mr. Crouse for a discussion of that matter. Perhaps you could develop some idea that would give Skenandoa any developments they might have in the rayon field. I will ask Mr. Crouse tomorrow what would be a mutually convenient date for you to see Schurman.

Yours very truly,

R K Ferguson
Vice-President.

RKF:R

Oct. 17, 1929

Mr. R. K. Ferguson,
c/o F. L. Carlisle & Co.
18 Broad St.
New York, N. Y.

Dear Roy:

I note in your letter of October 16th that you have notified Mr. Schurman of our decision not to go ahead with Wolff & Co. on the Transparit proposition. I talked with Mr. Crouse about this matter and thoroughly concur with you and him in your decision. I believe, from Mr. Dunham's report, that a factory to make Transparit of good quality could be established here. As it was with us in establishing the Rayon plant, I believe, though, that in the first unit a great deal of money would be wasted in doing things incorrectly; I think that if we did establish a Transparit plant here that the building and starting up of such plant would require intensive effort on the part of our present Rayon organization which would of necessity cause to a certain extent neglect of the duties incident to the manufacture of Rayon and the starting up of the new equipment to make Rayon.

My main disappointment in losing the connection with Wolff & Co. is in the loss of a prospective associate in Germany capable of carrying on valuable chemical research work for Viscose products. I believe that we have really developed a strong mechanical research organization competent to develop the equipment used in making Rayon to a high degree of perfection. We have, with Mr. Mattinson at its head, a good chemical control organization, one which understands chemically how to make the best quality of Rayon today. When we first entered the field it struck me almost immediately, as it probably has struck everyone else familiar with the manufacture of Rayon, that there were two inherent faults which some day would have to be corrected; one was in processing with skeins after spinning which has the disadvantages of, first, high cost; second, of degrading the yarn so that instead of making first quality, every manufacturer using the skein process makes a great deal of yarn lower than first quality; third, skeins are about the worst form of supply for the customer. The other big fault is that Rayon when wet is very much weaker than when dry and insufficiently strong wet to properly withstand the washing it is apt to receive. As you

know, we have tackled the first problem and the fact that we are daily producing 95% first quality yarn demonstrates that our efforts have not been in vain. We have not had a chemical research organization to even attempt any work towards making a stronger wet yarn or even to try out the Karplus patent which, you will remember, we purchased from Germany.

We need two things, first - a chemical research organization in our own plant and, second - one or more affiliations abroad. We are planning to organize our own chemical research department. I told Beecher, the other day, that I want to go abroad early next spring or late in the winter to renew the contact made on my last trip with Messrs. Crosa and Bevan and to try and make other contacts along that line. I will want to see Jengjen in Berlin and as many others as I can find in England and on the Continent. Beecher seemed to approve and, in fact, inferred that he would like to go along with me which I think would be of decided advantage to the Company.

I shall look forward to Mr. Schurman's visit and hope that in spite of not going into the Transparit proposition that we may be able to make some sort of affiliation with Wolff & Co.

Very truly yours,

BG-Jr.:AL

F. L. CARLISLE & CO., INC.
15 BROAD STREET
NEW YORK

October 18, 1929.

Mr. Beirne Gordon, Jr.,
Skenandoa Rayon Corporation,
Utica, N. Y.

Dear Beirne:

Your letter of the 17th is received. My views are entirely in accord with those expressed in your letter.

Mr. Schurman brought Mr. Mowitz and Mr. Paul of the J. Henry Schroeder Banking Corporation in today to hear of our decision to turn down Transparit. Evidently he wanted to have them hear the story directly from us. They thoroughly appreciate the basis for our failure to proceed, which in no way injures their position. I told them that we felt the same amount of capital which would be required in the Transparit business could be employed in expansion of our rayon business and yield a higher return. I urged them to try and establish a connection for Transparit with the Hammermill Paper Company or some other similar high grade paper concern and perhaps if that were done it would be possible for Skenandoa to join the alliance for the sake of benefiting from any research in the rayon field.

Mr. Schurman is going to Utica next week to see you and Beecher. I am glad to say that our turning them down has not left any bad taste or ill feeling on their part.

Yours very truly,

R K Ferguson

Vice-President.

RKF:R

Defendant's Exhibit No. 659

DU PONT CELLOPHANE COMPANY, INC.

BOARD OF DIRECTORS.

Meeting #30 (Regular Meeting) held at the office of the Company, Wilmington, Delaware, 2:00 p.m., Daylight Saving Time, Monday, September 20, 1926.

PRESENT: W.C.Spruance, in the Chair.
Henry L. Blum,
W.S.Carpenter, Jr.,
B. G. Paskus,
F. W. Pickard,
Fin Sparre,
L. A. Yerkes.

ALSO B.M.May, Vice President & Treasurer.

ABSENT: Albert Blum,
Charles J. Gillet.

Minutes of Meeting #29, held on August 16,1926, were approved without reading as a copy of same had been sent previously to every member of the Board and no changes or corrections suggested.

PRESIDENT'S REPORT:

Regular Monthly Report from the President, dated September 11, 1926, giving figures for August and to-date 1926, was presented, and after being discussed in detail, it was moved and unanimously carried that same be received and ordered filed.

INCREASED PLANT CAPACITY:

Pursuant to action taken at meeting held on January 18, 1926, the above subject was again presented for consideration, and after discussion it was decided that no action is necessary at this time, it being understood that the subject will receive further consideration at the December meeting.

POLICY REGARDING PATENTS:

Pursuant to suggestion from the Executive Committee of E. I. duPont deNemours & Company, and after discussion, the following resolution was offered and unanimously adopted:-

WHEREAS, various divisions of the Company from time to time consider plans for the manufacture, use or sale of certain processes, products or machines that might possibly fall within the monopolies granted under certain United States unexpired patents; and

WHEREAS, it is desirable that the Company should follow a uniform policy under such circumstances;

THEREFORE, BE IT RESOLVED, that all operating departments of the Company should carefully follow and observe the following procedure in all such cases:

M2058

1. Every division or department of the Company should take care not to commit any unintentional infringement of a patent, and to this end should regularly obtain and keep on file copies of all United States patents granted in their respective arts; and should promptly call to the attention of the Chemical Director any case that may possibly involve infringement.

2. Upon submission of any such question, the Chemical Director will in the first instance determine whether or not any possibility of infringement exists and will promptly render an opinion thereon.

3. If, in the opinion of the Chemical Director, infringement exists, or the possibility thereof exists, then the technical division or department of the Company involved shall offer or devise ways and means of altering their processes, products or apparatus, so as clearly to avoid infringement, and shall obtain the opinion of the Chemical Director on such suggested changes.

4. If, after such efforts, avoidance of infringement be impossible or impracticable, then the question of validity of the patent and patent claims involved will be examined by the Chemical Director, and an opinion rendered to the proper officers of the Company, who will thereupon determine whether the patent is clearly invalid, or whether it is clearly valid, or whether its validity is in doubt, and will then proceed as follows:-

(a) If the patent is agreed upon to be clearly invalid it will then be entirely in order for the General Manager or Department Head to continue infringement or undertake the operation involving infringement, but wherever practicable, it shall also be the duty of the General Manager or Department Head to explain the situation to the owner of the patent or patents involved in order that an otherwise possible lawsuit and ill will may be avoided. It is the sense of this Board that in such cases royalties or other payments are not justified but it shall be the duty of the General Manager or Department Head to consider whether for commercial or other reasons it might be advisable to take out licenses on a more or less nominal basis on conditions properly safe-guarding the Company's interests.

(b) In all other cases, even though the validity be of doubtful nature, it is the sense of this Board that negotiations should be undertaken promptly with the owner of the patent or patents involved and no new operation necessitating infringement should be undertaken until the question involved is determined. It shall be the duty of the General Manager or Department Head to avoid existant infringement or reduce such infringements to the smallest practicable proportions until it may be decided whether to:

1. Not embark upon or discontinue the infringement operation.
2. Undertake research work to discover some way of clearly avoiding infringement.
3. Ignore the owner of the patent or patents and stand suit if necessary.
4. Pay the terms of license or purchase of patent if obtainable.

M 2058

It is understood in accordance with usual practice that the subject will be submitted to this Board for decision whenever the cost of research work or patent may be $5,000. or more, or in cases where the amount of license royalty is in excess of $5,000. or in cases where litigation is to be expected and may involve expenditures in excess of $5,000.

It is understood that negotiations with owners of patents may at times be impracticalbe such as on account of foreign residence, unknown whereabouts or competitive reasons, and there may also be cases of emergency causing the above policy to be either impracticable or undesirable, but it shall be the duty of the General Manager or Department Head in such cases to follow the above policy so far as practicable and in all important cases to submit a report to this Board with recommendation for action.

NEXT MEETING:

It was decided that the next regular meeting of the Board should be held in Wilmington, Delaware, at 2:00 p.m., on Monday, October 25, 1926.

There being no further business to come before the Board, upon motion, duly seconded, the meeting was adjourned.

ASSISTANT SECRETARY.

2.1

FT 208

Defendant's Exhibit No. 660

September 24, 1931

TO : HEADS OF DEPARTMENTS AND OFFICERS
OF SUBSIDIARY COMPANIES

FROM : EXECUTIVE COMMITTEE,
E. I. DU PONT DE NEMOURS & COMPANY

L. A. Y.

PROCEDURE GOVERNING ACQUISITION AND DISPOSITION OF RIGHTS UNDER PATENTS AND SECRET INVENTIONS:

At meeting of the Executive Committee, held on September 23, 1931, the following resolution was offered and, after discussion, was unanimously adopted:-

WHEREAS, the method of procedure with reference to entering into agreements with other parties, relative to the disposition of rights under patents and secret inventions owned or controlled by this Company or by its subsidiaries, and the acquisition of rights by this Company or by its subsidiaries, is not now clearly prescribed, the only well-defined rules on this subject being that the disposal of or the licensing of others under patents owned or controlled by this Company must be approved by the Executive Committee and authorized by the Finance Committee; and

WHEREAS, in some cases such an agreement entered into by one department or by a subsidiary of the Company directly affects its other departments and/or subsidiaries, and the vise of such other departments or subsidiaries should be secured before such an agreement becomes effective, while in many cases such an agreement is merely supplementary in character, complying with provisions of a prior or a general agreement, or is of such relatively minor importance as not to justify the delays which might be occasioned in securing vise or approval of other divisions of the Company; and

WHEREAS, for the purpose of expediting as much as possible the negotiation and execution of such agreements, while at the same time safeguarding the interests of the several departments and subsidiaries of the Company, it is regarded as desirable that responsibility be centralized for securing such vises in each case as may be absolutely requisite;

M2069

RESOLVED, that the following procedure be adopted for the guidance of the heads of departments and officers of subsidiaries:

I. During the progress of negotiation of an agreement looking to the acquisition or disposition of rights of the character above mentioned, and prior to definite commitment of the Company thereunder, the head of industrial department or officer of subsidiary (as the case may be) conducting such negotiation should submit the proposed agreement to the Legal Department for approval as to form and should determine, with the assistance of the Legal Department:

A. Whether the proposed agreement directly affects other departments or subsidiaries or affiliates of the Company, and

B. Whether any commitment of an indeterminate nature is involved. (Examples of such indeterminate commitments might be:

The acknowledgement of the validity of patents.

Any restrictions of the scope of the Company's activities in the future.

The granting of licenses under specific, duPont-owned, patents coupled with an obligation to license "any patents of which the Company may subsequently become possessed within the same field")

In either of these cases, "A" or "B", the head of department or officer of subsidiary (as the case may be) conducting such negotiation shall, through the Legal Department if he so desire, secure the visé of such other department and/or subsidiary as would probably be affected thereby, including the visé of the Chemical Department and Patent Board whenever it is apparent that the interest of more than one other operating department and/or subsidiary or affiliate would be involved, and of the Engineering Department with respect to all mechanical matters therein referred to, as well as the visé of the Foreign Relations Department if there is any probability that any of our foreign agreements would be affected.

II. The authority for the approval of expenditures for the acquisition of rights under agreements of this character shall be the same as authorized in "Rules Governing Method of Handling Appropriations" for Heads of Departments and

M2059

Boards of Directors of 100% owned Subsidiaries, and amendments thereto. In arriving at the contemplated expenditure, there should be added to the initial cost the expected expenditures for royalties.

III. If, (1) the contemplated cost of the rights to be acquired is in excess of the approval authority of the individual or Board, or

(2) in case a commitment of an indeterminate nature is involved, or

(3) in case a protest is to be registered by some division of the Company, or

(4) in every case of the disposition of rights, the proposed agreement should be presented by the Industrial Department or the Subsidiary Company to the Executive Committee for approval. In the case of a Subsidiary Company, the approval of its Board of Directors should precede such submission to the Executive Committee.

IV. It is further understood that the disposition of rights will continue to require the authorization of the Finance Committee.

EXECUTIVE COMMITTEE

BY W S Fisher

SECRETARY

29

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Defendant's Exhibit No. 661

PATENT POLICY

EXECUTIVE COMMITTEE ACTION
NOVEMBER 2, 1938

The following resolution was offered and unanimously adopted:-

WHEREAS, the growth of the chemical industry and the development by this Company of a diversified line of chemical products have given increasing importance in recent years to the relation of patents to its business; and

WHEREAS, it is deemed advisable to set forth, for convenient guidance, the principles of patent policy which have become established in the course of the Company's experience in such matters;

THEREFORE, BE IT RESOLVED, that the following statement of the Company's practices be accepted as the Company's patent policy and serve as a guide to all departments (the term "Company" as used herein being understood to include subsidiaries, and the term "Heads of Departments" being understood to include officers of subsidiaries):-

A. FILING UNITED STATES APPLICATIONS

Experience has shown that ownership of inventions usually can not be safeguarded by attempting to maintain secrecy, and that public use in plant operations is not a practical means of preventing others from obtaining letters patent and thereby preventing the use by the Company of its own inventions. Adequate protection of the large expenditures of the Company in research and development work requires, therefore, the prompt filing of applications for United States letters patent covering all patentable inventions which may possess commercial value. The following types of inventions are deemed to possess commercial value:

(1) Inventions which the Company is practicing or intends to practice in its own manufacturing operations;

(2) Auxiliary inventions covering modifications or alternatives which it may be found practical or desirable to introduce in the Company's manufacturing operations;

(3) Inventions covering uses of the products sold by the Company;

(4) Inventions which may be a source of income or other benefit through licenses to others.

EXECUTIVE

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B. LICENSES UNDER UNITED STATES PATENTS

1. Grants. The Company's patented inventions should be utilized wherever commercially practicable, either in the Company's own operations or by licenses to others, or by both methods. Since most inventions developed by the Company are of the first three types mentioned in Section A, ordinarily it is preferable to utilize them in the manufacture or use of the Company's own products, rather than to attempt to exploit them as a source of profit through licenses to others. In some instances, however, others may be interested in obtaining licenses under the Company's patents, and fair consideration should be given to such requests.

The advisability of granting licenses can only be determined in the light of the circumstances involved in each case; but, as a general guide, such grants may be desirable in the following instances:

(a) Where the invention is not being or likely to be practiced by the Company itself, but can be used by others to serve a sound commercial need;

(b) Where the market in some areas can be served more economically by other concerns with existing manufacturing and distributing facilities;

(c) Where, if the invention is practiced by the Company itself, the revenue obtainable from such licenses will compensate adequately for the waiver of the Company's exclusive rights;

(d) Where such licenses will serve the purposes described in paragraph 3 of this section.

On the other hand, requests for licenses ordinarily should be denied under the following circumstances:

(a) Where the Company is developing and promoting an important new product or process, economic factors may justify the withholding, either temporarily or permanently, of licenses under patents relating thereto. This is apt to be the situation where the project requires a heavy investment and an introductory period of losses.

(b) The licensing of additional production may be unsound where the market already is adequately supplied by existing manufacturing and operating facilities, or where the Company contemplates such coverage with its own facilities.

(c) Licenses may be refused where the Company is not satisfied as to the financial or technical responsibility of the applicant.

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(d) It may be impossible to grant licenses under a patent because of having already granted exclusive rights thereunder; but to avoid this situation licenses should be confined, wherever practicable, to non-exclusive grants.

Under the procedure set forth in Section C below, all licenses to be gra ed by the Company are submitted to the Executive Committee. In order that this Committee may be familiar with negative as well as affirmative actions in respect to granting licenses under the Company's patents, the departments concerned shall report to the Executive Committee all cases where requests for licenses are refused.

2. Conditions and Restrictions. Any conditions or restrictions included in licenses granted by the Company shall be confined to matters clearly within the scope of the patent grant. The following types of provisions are deemed either to be outside such scope or to be otherwise contrary to the general policy of the Company:

(a) A considerable part of the Company's research and development work relates to the uses of its products. Ordinarily, it is impractical from a business standpoint to charge royalties for the use of such inventions by customers. As the Company's only direct reward for such efforts, it might seem reasonable to grant licenses which are conditioned upon and limited to the use of its products with its patented inventions. Such conditions are regarded by the courts, however, as going beyond the scope of the patent grant. Accordingly, in such cases the Company's reward must be through goodwill engendered by these contributions to the progress of the industry, and through the wider outlets thereby created for its products. No license shall be conditioned upon the use of the Company's products.

(b) Most patents in the chemical industry cover process rather than product claims. While the prevailing view is that it is permissible, in licenses under process patents, to fix the price at which the resulting product may be sold by the licensee, uncertainty as to the soundness of this view makes it preferable not to attempt such control.

(c) As a matter of law, a licensee is estopped from denying the validity of the patent under which he has accepted a license, so long as he retains the license. Frequently the licensee is required, as a condition of the license, to admit such validity throughout the term of the patent, notwithstanding any earlier termination of the license. The Company is opposed to requiring such admission beyond the continuance of the license.

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It is legally permissible for a licensor, at least where the patent covers the product, to control the licensee's selling territory, output, method of marketing, and selling price. Nevertheless, price control should not be imposed unless the validity of the licensed patent has been established in litigation or in the opinion of the Legal Department is beyond reasonable doubt; and the reasons for including any such conditions should be explained to this Committee before approval of the contract, accompanied by an opinion of the Legal Department as to the validity of the patent.

3. Cross-licenses. The practice of exchanging licenses between holders of separate patents is desirable, particularly in the following situations:

(a) Where different parties hold conflicting patents or patent applications, cross-licensing may avoid long and expensive interference proceedings or litigation.

(b) Different parties may hold patents covering different steps in producing a finished product, such as inventions covering a basic material, a process of manufacture, a machine used in such manufacture, an improvement patent, and a compound produced from several basic materials. Efficient exploitation is obstructed by the divided ownership of these supplementary patents, and this obstruction may be removed by exchange of licenses.

Because cross-licensing is susceptible of abuse, care should be exercised to conform strictly to the rules previously stated governing the imposition of restrictions or conditions in license agreements generally.

C. ACQUISITION AND DISPOSITION OF RIGHTS

The procedure with reference to entering into agreements with other parties relative to the acquisition or disposition of rights under patent applications, patents and inventions, shall be governed by this Committee's resolution of March 3, 1937, which sets forth the following rules:

1. During the progress of negotiation of an agreement looking to the acquisition or disposition of rights of the character above-mentioned, and prior to definite commitment of the Company thereunder, the Head of the Industrial Department conducting such negotiation should submit the proposed agreement to the Legal Department in order to make certain that the merits of the agreement are adequately covered in an approved legal manner, and, after approval as aforesaid by the Legal Department, should determine, with the assistance of the Legal Department -

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(a) Whether the proposed agreement directly affects other departments or affiliates of the Company; and

(b) Whether any commitment of an indeterminate nature is involved. (Examples of such indeterminate commitments might be:-

The acknowledgment of the validity of patents.

Any restrictions of the scope of the Company's activities in the future.

The granting of licenses under specific du Pont-owned patents coupled with an obligation to license "any patents of which the Company may subsequently become possessed within the same field").

In either of these cases, "a" or "b", the head of the department conducting such negotiations shall, through the Legal Department if he so desires, secure the vise of such other department as would probably be affected thereby, including the vise of the Chemical Department and Patent Board whenever it is apparent that the interest of more than one other department would be involved, and of the Engineering Department with respect to all mechanical matters therein referred to, as well as the vise of the Foreign Relations Department if there is any probability that any of our foreign agreements would be affected.

2. The authority for the approval of expenditures for the acquisition of rights under agreements of this character shall be the same as authorized in "Rules Governing Method of Handling Appropriations" for Heads of Departments and Boards of Directors of 100% owned Subsidiaries, and amendments thereto. In arriving at the contemplated expenditure, there should be added to the initial cost any other expected expenditures such as expenditures for royalties, research, development, and the like.

3. If the agreement falls in any one or more of the following categories it should be presented by the Industrial Department to the Executive Committee for approval, and in the case of a Subsidiary Company the approval of its Board of Directors should precede such presentation to the Executive Committee:-

(1) The contemplated cost of the rights to be acquired is in excess of the approval authority of the individual or Board.

(2) In case a commitment of an indeterminate nature

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(3) In case a protest is registered by some division of the Company.

(4) In every case of the disposition of rights.

4. It is further understood that the disposition of rights will require the authorization of the Finance Committee only when the total amount involved is in excess of $300,000, but it will be the duty of the Executive Committee to inform the Finance Committee of all actions taken by the Executive Committee on matters of major importance in connection with the authorization of licenses to others under patents owned or controlled by the Company, and authorization of assignments or sales to others of patents so owned or controlled, such matters of major importance being defined as follows:

> "Where the granting of a license will produce an estimated annual royalty of $10,000 or more; where the assignment or sale of patents, patent applications or inventions is estimated to be worth $100,000 or more; or where, in the opinion of the Executive Committee, the effect of such license, assignment or sale is to importantly affect the Company's status patentwise in any broad field of the Company's present or prospective operations."

In submitting future reports the Heads of Departments should advise specifically as to whether the proposition which they are presenting is considered to be a matter of major importance and to what extent.

D. INFRINGEMENT

The following rules shall be observed as a means of avoiding, so far as possible, infringement of patents not owned by or licensed to the Company:

1. Every department should take care not to commit any infringement of a patent, and to this end should regularly obtain and keep on file copies of all United States Patents granted in their respective arts; and should examine such patents for infringement before undertaking any new industrial operation or change in existing practices.

2. Upon discovering a patent that might be infringed by an existing or contemplated operation, the case should be immediately submitted to the Patent Division for an infringement opinion and a preliminary opinion on validity.

3. Unless the Patent Division definitely decides that no infringement is being or would be incurred, the department should study and consider ways and means of altering the device, process or product so as to clearly avoid infringement.

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4. If the department finds that it can not reasonably avoid infringement without abandoning the project, then the department may request a complete validity opinion on the patent or patent claims involved, and the Patent Division will render such opinion, in which, after reviewing the facts and the law, a statement will be made regarding the probable chances of defending any suit that might be brought. After receiving the opinion, the department should proceed as follows:

(a) If the patent is clearly invalid, the department should secure the final approval of the Patent Board and the permission of the Executive Committee for infringement, before any infringement is committed.

(b) In all other cases, even though the validity of the patent is of doubtful character, the department shall explore the possibilities of a settlement by a license or otherwise, such exploration to include discussion with the owner unless there should be important objections to doing so from the legal, economic or business aspects. If a settlement is under the circumstances reasonably possible, it should be made. If not, then the department, if it wishes to proceed with infringement, should submit the case to the Patent Board in the usual manner, and shall then prepare a statement of the case for the Executive Committee accompanied by a copy of the Patent Board action, and secure the final permission of the Executive Committee for infringement or other mode of disposition of the case.

(c) It is recognized that most patent litigation involves complicated technological and legal aspects which often render the outcome uncertain even after attempted careful appraisal, but nevertheless the Company's judgment on validity will be based upon a fair appraisal of the probable outcome in each particular case.

(d) The department is requested, in connection with any statement made to the Patent Board or Executive Committee in accordance with these provisions, to include the recital of any previous dealings with the patent owner or his predecessors in title, so that the Company may be regularly and fully advised in each case of any special circumstances of legal or equitable nature that might have a bearing upon a successful defense of a patent suit.

The foregoing shall supersede the resolution on this subject adopted by this Committee on October 13, 1937.

[illegible] EXECUTIVE COMMITTEE [illegible]

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E. PRICES

The general policy of the Company, as stated in the 1937 Annual Report to the Stockholders, is to endeavor to increase consumption of its patented and other new products by aiming at a low profit per unit on a large volume of sales rather than a high margin on a small volume.

The possession of patent protection covering a product, its method of manufacture, or its use, may be helpful in carrying out this policy, since it can absorb initial losses from low selling prices with greater assurance that the volume thereby created will flow to it. The ability to accomplish this purpose is of course largely dependent upon other factors which enter into the determination of selling prices, including the fact that every chemical product is competitive with natural or synthetic substitutes; but the industrial departments should give due weight to any protection that may be afforded by existing patents, insofar as it can be used as a factor in carrying out the general price policy stated above.

As a corollary, the industrial departments shall not permit the existence of patent protection to influence higher selling prices than can be economically justified on the basis of the other factors involved.

F. EMPLOYEES' RELATIONS

Research and the inventions resulting therefrom constitute one of the important phases of the Company's business. It employs hundreds of chemists and technicians to perform such work. To the results of these joint efforts it makes substantial contributions: the expenditure of millions of dollars annually, at the risk of negative results; the maintenance of properly equipped laboratories; direction and supervision of the employee's line of research; the assistance of associates and of past experience; the cost of filing, prosecuting and defending applications and patents; the cost and risk of exploiting the resulting inventions, involving the combined efforts of capital, engineering, manufacturing, market studies, advertising, selling, and general business experience. From the standpoint of the employee inventor, he is relieved of the risk attending such research and exploitation, receives a regular salary, and is given the opportunity of additional reward in the form of bonus for successful inventions as provided in the Company's Bonus Plan.

The product of such an employee's efforts is the property of the Company. To protect its ownership of this property, employees engaged in work of a technical nature dealing with research or manufacturing operations, particularly where their experience might lead to inventions or the development of secret processes, should be required to execute agreements in the form [illegible] by the Legal Department, safeguarding the Company's rights.

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G. FOREIGN PATENTS

1. It is the general policy of the Company ~~to limit~~ applications for foreign patents to those inventions which appear to be of considerable importance, and then to limit the number of countries in which applications are filed. Several considerations are deterrents to applying for foreign patents to a greater extent:

(a) The filing fees, annual renewal fees, and legal expense involved;

(b) The necessity of working the inventions in most countries to avoid revocation or compulsory licensing;

(c) The inability in some countries to obtain product patents;

(d) The difficulty of discovering and preventing infringement;

(e) The effect of unsettled or unknown political policies and conditions in some countries.

2. Where an invention comes within the scope of an agreement with a foreign associate, under which the parties are offered licenses under their respective inventions, the acceptance of a license by the other party relieves the Company from determining whether to apply for patents on the invention in the countries covered by license.

3. In other cases no attempt shall be made to obtain patents in foreign countries unless the industrial department concerned determines that such action is advisable because (a) the country has an industry which may be interested in a license to use the invention, or (b) the Company has or expects to have an export business in the country which will be protected by such a patent.

4. It is considered undesirable to enter into any broad patents and processes agreements with foreign concerns, other than those concerns with whom such agreements are already in effect, but there is no objection to making arrangements with foreign manufacturers as follows:

(a) Such arrangements shall provide (1) that each party expresses the intention of bringing to the attention of the other developments which they believe might be of interest; (2) that there is no obligation to offer any invention to the other or to refrain from offering it to third parties; (3) that no offer is to be made that is in conflict with other commitments; and (4) that each process offered under such arrangements is to be the subject of separate negotiations.

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(b) Each such arrangement is to be reviewed with the Legal, Development and Foreign Relations departments and receive the approval of the Foreign Relations and Executive committees before being concluded.

(c) Such arrangements are to be covered by exchange of letters which make it clear that the arrangement is merely an expression of intention to offer processes on a voluntary basis and that no other significance is to be read into it.

(d) The Foreign Relations Department is to be consulted in advance of negotiations relating to the sale of specific processes under such arrangements to enable that department to determine whether the interests of any other department or general Company policy are affected. (In addition, the Executive or Finance Committee must give final authorization in accordance with regular Company procedure.)

(e) In the event negotiations for the sale of a specific process are successfully concluded, a formal license or other agreement is to be executed.

H. RESPONSIBILITY FOR PATENT APPLICATIONS

It shall be the responsibility of the Heads of Departments to arrange for the filing of applications for patents on inventions made under their jurisdiction, wherever such action is advisable, and to cause suitable technical and administrative efforts to be made to secure satisfactory patents.

It shall be the responsibility of the Legal Department that the filing and prosecution of patent applications be carried out properly and efficiently.

It shall be the responsibility of the Patent Board to review all allowed United States patent applications, and the final fee for issuance of patent shall not be paid without its authorization. Also, the departments shall obtain the approval of the Patent Board before filing applications for foreign patents.

* * * * * * * * * * * * * * * * * *

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Defendant's Exhibit No. 662

PATENT POLICY

EXECUTIVE COMMITTEE ACTION
NOVEMBER 2, 1938, AS AMENDED
TO ~~XXXXXXXXXXXXXX~~ APRIL 2, 1947

WHEREAS, the growth of the chemical industry and the development by this Company of a diversified line of chemical products have given increasing importance in recent years to the relation of patents to its business; and

WHEREAS, it is deemed advisable to set forth, for convenient guidance, the principles of patent policy which have become established in the course of the Company's experience in such matters;

THEREFORE, BE IT RESOLVED, that the following st ment of the Company's practices be accepted as the Compan patent policy and serve as a guide to all departments:-

A. FILING UNITED STATES APPLICATIONS

Experience has shown that ownership of inventions usually can not be safeguarded by attempting to maintain secrecy, and that public use in plant operations is not a practical means of preventing others from obtaining letters patent and thereby preventing the use by the Company of its own inventions. Adequate protection of the large expenditures of the Company in research and development work requires, therefore, the prompt filing of applications for United States letters patent covering all patentable inventions which may possess commercial value. The following types of inventions are deemed to possess commercial value:

(1) Inventions which the Company is practicing or intends to practice in its own manufacturing operations;

(2) Auxiliary inventions covering modifications or alternatives which it may be found practical or desirable to introduce in the Company's manufacturing operations;

(3) Inventions covering uses of the products sold by the Company;

(4) Inventions which may be a source of income or other benefit through licenses to others.

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B. LICENSES UNDER UNITED STATES PATENTS

1. Grants. The Company's patented inven[illegible] be utilized wherever commercially practicable, either in the Company's own operations or by licenses to others, or by both methods. Since most inventions developed by the Company are of the first three types mentioned in section A, ordinarily it is preferable to utilize them in the manufacture or use of the Company's own products, rather than to attempt to exploit them as a source of profit through licenses to others. In some instances, however, others may be interested in obtaining licenses under the Company's patents, and fair consideration should be given to such requests.

The advisability of granting licenses can only be determined in the light of the circumstances involved in each case; but, as a general guide, such grants may be desirable in the following instances:

(a) Where the invention is not being or likely to be practiced by the Company itself, but can be used by others to serve a sound commercial need;

(b) Where the market in some areas can be served more economically by other concerns with existing manufacturing and distributing facilities;

(c) Where, if the invention is practiced by the Company itself, the revenue obtainable from such licenses will compensate adequately for the waiver of the Company's exclusive rights;

(d) Where such licenses will serve the purposes described in paragraph 3 of this section.

On the other hand, requests for licenses ordinarily should be denied under the following circumstances:

(a) Where the Company is developing and promoting an important new product or process, economic factors may justify the withholding, either temporarily or permanently, of licenses under patents relating thereto. This is apt to be the situation where the project requires a heavy investment and an introductory period of losses.

(b) The licensing of additional production may be unsound where the market already is adequately supplied by existing manufacturing and operating facilities, or where the Company contemplates such coverage with its own facilities.

(c) Licenses may be refused where the Company is not satisfied as to the financial or technical responsibility of the applicant.

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(d) It may be impossible to grant licenses under a patent because of having already granted exclusive rights thereunder; but to avoid this situation licenses should be confined, wherever practicable, to non-exclusive grants.

Under the procedure set forth in Section C below, all licenses to be granted by the Company are submitted to the Executive Committee. In order that this Committee may be familiar with negative as well as affirmative actions in respect to granting licenses under the Company's patents, the departments concerned shall report to the Executive Committee all cases where requests for licenses are refused.

2. Conditions and Restrictions. Any conditions or restrictions included in licenses granted by the Company shall be confined to matters clearly within the scope of the patent grant. The following types of provisions are deemed either to be outside such scope or to be otherwise contrary to the general policy of the Company:

(a) A considerable part of the Company's research and development work relates to the uses of its products. Ordinarily, it is impractical from a business standpoint to charge royalties for the use of such inventions by customers. As the Company's only direct reward for such efforts, it might seem reasonable to grant licenses which are conditioned upon and limited to the use of its products with its patented inventions. Such conditions are regarded by the courts, however, as going beyond the scope of the patent grant. Accordingly, in such cases the Company's reward must be through goodwill engendered by these contributions to the progress of the industry, and through the wider outlets thereby created for its products. No license shall be conditioned upon the use of the Company's products.

(b) Most patents in the chemical industry cover process rather than product claims. While the prevailing view is that it is permissible, in licenses under process patents, to fix the price at which the resulting product may be sold by the licensee, uncertainty as to the soundness of this view makes it preferable not to attempt such control.

(c) As a matter of law, a licensee is estopped from denying the validity of the patent under which he has accepted a license, so long as he retains the license. Frequently the licensee is required, as a condition of the license, to admit such validity throughout the term of the patent, notwithstanding any earlier termination of the license. The Company is opposed to requiring such admission beyond the continuance of the license.

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It is legally permissible for a licensor, at least where the patent covers the product, to control the licensee's selling territory, output, method of marketing, and selling price. Nevertheless, price control should not be imposed unless the validity of the licensed patent has been established in litigation or in the opinion of the Legal Department is beyond reasonable doubt; and the reasons for including any such conditions should be explained to this Committee before approval of the contract, accompanied by an opinion of the Legal Department as to the validity of the patent.

3. Cross-Licenses. The practice of exchanging licenses between holders of separate patents is desirable, particularly in the following situations:

(a) Where different parties hold conflicting patents or patent applications, cross-licensing may avoid long and expensive interference proceedings or litigation.

Different parties may hold patents covering different steps in producing a finished product, such as inventions covering a basic material, a process of manufacture, a machine used in such manufacture, an improvement patent, and a compound produced from several basic materials. Efficient exploitation is obstructed by the divided ownership of these supplementary patents, and this obstruction may be removed by exchange of licenses.

Because cross-licensing is susceptible of abuse, care should be exercised to conform strictly to the rules previously stated governing the imposition of restrictions or conditions in license agreements generally.

C. ACQUISITION AND DISPOSITION OF RIGHTS

The procedure with reference to entering into agreements with other parties relative to the acquisition or disposition of rights under patent applications, patents and inventions, shall be governed by this Committee's resolution of March 3, 1937, which sets forth the following rules:

1. During the progress of negotiation of an agreement looking to the acquisition or disposition of rights of the character above-mentioned, and prior to definite commitment of the Company thereunder, the Head of the Industrial Department conducting such negotiation should submit the proposed agreement to the Legal Department in order to make certain that the merits of the agreement are adequately covered in an approved legal manner, and, after approval as aforesaid by the Legal Department, should determine, with the assistance of the Legal Department -

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(a) Whether the proposed agreement directly affects other departments or affiliates of the Company; and

(b) Whether any Commitment of an indeterminate nature is involved. (Examples of such indeterminate Commitments might be:-

The acknowledgment of the validity of patents.

Any restrictions of the scope of the Company's activities in the future.

The granting of licenses under specific du Pont-owned patents coupled with an obligation to license "any patents of which the Company may subsequently become possessed within the same field").

In either of these cases, "a" or "b", the head of the department conducting such negotiations shall, through the Legal Department if he so desires, secure the visé of such other department as would probably be affected thereby, including the visé of the Chemical Department and Patent Board whenever it is apparent that the interest of more than one other department would be involved, and of the Engineering Department with respect to all mechanical matters therein referred to, as well as the visé of the Foreign Relations Department if there is any probability that any of our foreign agreements would be affected.

2. The authority for the approval of expenditures for the acquisition of rights under agreements of this character shall be the same as authorized in "Rules Governing Method of Handling Appropriations" for Heads of Departments, and amendments thereto. In arriving at the contemplated expenditure, there should be added to the initial cost any other expected expenditures such as expenditures for royalties, research, development, and the like.

3. If the agreement falls in any one or more of the following categories it should be presented by the Industrial Department to the Executive Committee for approval:-

(1) The contemplated cost of the rights to be acquired is in excess of the approval authority of the individual.

(2) In case a commitment of an indeterminate nature is involved.

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(3) In case a protest is registered by some division of the Company.

(4) In every case of the disposition of rights.

4. It is further understood that the disposition of rights will require the authorization of the Finance Committee only when the total amount involved is in excess of $300,000, but it will be the duty of the Executive Committee to inform the Finance Committee of all actions taken by the Executive Committee on matters of major importance in connection with the authorization of licenses to others under patents owned or controlled by the Company, and authorization of assignments or sales to others of patents so owned or controlled, such matters of major importance being defined as follows:

> "Where the granting of a license will produce an estimated annual royalty of $10,000 or more; where the assignment or sale of patents, patent applications or inventions is estimated to be worth $100,000 or more; or where, in the opinion of the Executive Committee, the effect of such license, assignment or sale is to importantly affect the Company's status patentwise in any broad field of the Company's present or prospective operations."

In submitting future reports the Heads of Departments should advise specifically as to whether the proposition which they are presenting is considered to be a matter of major importance and to what extent.

D. INFRINGEMENT

The following rules shall be observed as a means of avoiding, so far as possible, infringement of patents not owned by or licensed to the Company:

1. Every department should take care not to commit any infringement of a patent, and to this end should regularly obtain and keep on file copies of all United States Patents granted in their respective arts; and should examine such patents for infringement before undertaking any new industrial operation or change in existing practices.

2. Upon discovering a patent that might be infringed by an existing or contemplated operation, the case should be immediately submitted to the Patent Division for an infringement opinion and a preliminary opinion on validity.

3. Unless the Patent Division definitely decides that no infringement is being or would be incurred, the department should study and consider ways and means of altering the device, process or product so as to clearly avoid infringement.

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*4. If the department finds that it can not reasonably avoid infringement without abandoning the project, then the department may request a complete validity opinion on the patent or patent claims involved, and the Patent Division will render such opinion, in which, after reviewing the facts and the law, a statement will be made regarding the probable chances of defending any suit that might be brought. After receiving the opinion, the department should proceed as follows:

(a) In all cases, even though the validity of the patent is of doubtful character, the department shall explore the possibilities of a settlement by a license or otherwise, such exploration to include discussion with the owner unless there should be important objections to doing so from the legal, economic or business aspects. If a settlement is under the circumstances, reasonably possible, it should be made. If not, then the department, if it wishes to proceed with infringement, should submit the case to the Patent Board in the usual manner, and shall then prepare a statement of the case for the Executive Committee accompanied by a copy of the Patent Board action, and secure the final permission of the Executive Committee for infringement or other mode of disposition of the case.

(b) It is recognized that most patent litigation involves complicated technological and legal aspects which often render the outcome uncertain even after attempted careful appraisal, but nevertheless the Company's judgment on validity will be based upon a fair appraisal of the probable outcome in each particular case.

(c) The department is requested, in connection with any statement made to the Patent Board or Executive Committee in accordance with these provisions, to include the recital of any previous dealings with the patent owner or his predecessors in title, so that the Company may be regularly and fully advised in each case of any special circumstances of legal or equitable nature that might have a bearing upon a successful defense of a patent suit.

The foregoing shall supersede the resolution on this subject (Policy Regarding Patents) adopted by this Committee on October 13, 1937.

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*As amended by Executive Committee at meeting January 31, 1940.

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E. PRICES

The general policy of the Company, as stated in the 1937 Annual Report to the Stockholders, is to endeavor to increase consumption of its patented and other new products by aiming at a low profit per unit on a large volume of sales rather than a high margin on a small volume.

The possession of patent protection covering a product, its method of manufacture, or its use, may be helpful in carrying out this policy, since it can absorb initial losses from low selling prices with greater assurance that the volume thereby created will flow to it. The ability to accomplish this purpose is of course largely dependent upon other factors which enter into the determination of selling prices, including the fact that every chemical product is competitive with natural or synthetic substitutes; but the industrial departments should give due weight to any protection that may be afforded by existing patents, insofar as it can be used as a factor in carrying out the general price policy stated above.

As a corollary, the industrial departments shall not permit the existence of patent protection to influence higher selling prices than can be economically justified on the basis of the other factors involved.

F. EMPLOYEES' RELATIONS

Research and the inventions resulting therefrom constitute one of the important phases of the Company's business It employs hundreds of chemists and technicians to perform such work. To the results of these joint efforts it makes substantial contributions: the expenditure of millions of dollars annually, at the risk of negative results; the maintenance of properly equipped laboratories; direction and supervision of the employee's line of research; the assistance of associates and of past experience; the cost of filing, prosecuting and defending applications and patents; the cost and risk of exploiting the resulting inventions, involving the combined efforts of capital, engineering, manufacturing, market studies, advertising, selling, and general business experience. From the standpoint of the employee inventor, he is relieved of the risk attending such research and exploitation, receives a regular salary, and is given the opportunity of additional reward in the form of bonus for successful inventions as provided in the Company's Bonus Plan.

The product of such an employee's efforts is the property of the Company. To protect its ownership of this property, employees engaged in work of a technical nature dealing with research or manufacturing operations, particularly where their experience might lead to inventions or the development of secret processes, should be required to execute agreements in the form approved by the Legal Department, safeguarding the Company's rights.

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* The Head or Assistant Head of any department of the Company may release any employee within his department from the employee's obligations to the Company with respect to any alleged invention of the employee, provided that (1) no department undertakes to file an application for a patent covering such invention; (2) the matter is first acted on by the Patent Board; and (3) the Committee on Patents approves the grant of a release. Every such release shall be in a form approved by the Legal Department and shall reserve to the Company (a) rights consistent with the prior commitments of the Company, and (b) at least a non-exclusive, royalty-free license to use any process and make and use any product or apparatus embodying the invention, and to sell any product or apparatus embodying the invention and not claimed in a patent controlled by the employee.

Inventions may also be made by our employees which, because they are not related in any way to the activities or business of the Company, are not required under our employees' agreements to be assigned to the Company. Accordingly, the Head or Assistant Head of any department is further authorized, whenever requested by an employee under his jurisdiction, to waive on behalf of the Company all claim to any right or interest in any invention made by the employee and determined by the Patent Board not to relate in any way to the activities or business of the Company, provided that each such waiver, prior to execution, is approved by the Committee on Patents.

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* Substituted for third paragraph of Section "F" of the "PATENT POLICY" by action of the Executive Committee at meeting held on April 2, 1947.

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G. FOREIGN PATENTS

1. It is the general policy of the Company to limit applications for foreign patents to those inventions which appear to be of considerable importance, and then to limit the number of countries in which applications are filed. Several considerations are deterrents to applying for foreign patents to a greater extent:

(a) The filing fees, annual renewal fees, and legal expense involved;

(b) The necessity of working the inventions in most countries to avoid revocation or compulsory licensing;

(c) The inability in some countries to obtain product patents;

(d) The difficulty of discovering and preventing infringement;

(e) The effect of unsettled or unkown political policies and conditions in some countries.

2. Where an invention comes within the scope of an agreement with a foreign associate, under which the parties are offered licenses under their respective inventions, the acceptance of a license by the other party relieves the Company from determining whether to apply for patents on the invention in the countries covered by license.

3. In other cases no attempt shall be made to obtain patents in foreign countries unless the industrial department concerned determines that such action is advisable because (a) the country has an industry which may be interested in a license to use the invention, or (b) the Company has or expects to have an export business in the country which will be protected by such a patent.

4. It is considered undesirable to enter into any broad patents and processes agreements with foreign concerns, other than those concerns with whom such agreements are already in effect, but there is no objection to making arrangements with foreign manufacturers as follows:

(a) Such arrangements shall provide (1) that each party expresses the intention of bringing to the attention of the other developments which they believe might be of interest; (2) that there is no obligation to offer any invention to the other or to refrain from offering it to third parties; (3) that no offer is to be made that is in conflict with other commitments; and (4) that each process offered under such arrangements is to be the subject of separate negotiations.

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(b) Each such arrangement is to be reviewed with the Legal, Development and Foreign Relations departments and receive the approval of the Foreign Relations and Executive committees before being concluded.

(c) Such arrangements are to be covered by exchange of letters which make it clear that the arrangement is merely an expression of intention to offer processes on a voluntary basis and that no other significance is to be read into it.

(d) The Foreign Relations Department is to be consulted in advance of negotiations relating to the sale of specific processes under such arrangements to enable that department to determine whether the interests of any other department or general Company policy are affected. (In addition, the Executive or Finance Committee must give final authorization in accordance with regular Company procedure.)

(e) In the event negotiations for the sale of a specific process are successfully concluded, a formal license or other agreement is to be executed.

H. RESPONSIBILITY FOR PATENT APPLICATIONS

It shall be the responsibility of the Heads of Departments to arrange for the filing of applications for patents on inventions made under their jurisdiction, wherever such action is advisable, and to cause suitable technical and administrative efforts to be made to secure satisfactory patents.

It shall be the responsibility of the Legal Department that the filing and prosecution of patent applications be carried out properly and efficiently.

It shall be the responsibility of the Patent Board to review all allowed United States patent applications, and the final fee for issuance of patent shall not be paid without its authorization. Also, the departments shall obtain the approval of the Patent Board before filing applications for foreign patents.

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Defendant's Exhibit No. 668

FILE COPY

cc: Mr. C. F. Daley - Wilmington
Mr. H. duPont Lee - Wilmington
Mr. H. J. White - Wilmington

Buffalo, New York
October 9, 1939

Mr. L. A. Yerkes
General Manager
Rayon Department
WILMINGTON

STROBOSCOPIC CHARTS - KRIEK U.S. PATENT NO. 2,119,627

Your letter of October 6, 1939, indicates that we made a slip in not having filed to Hull, asks how this occurred and asks if such circumstances will be avoided in the future.

There are two ways of administering the Patent Service. One is to be very conservative and to take no chances with the possibility of getting a patent for an idea or with the possibility of our using the idea. The second method is to assume a prudent business risk and to expect to be wrong in a certain small percentage of cases. We have chosen the second procedure and we are trying to operate with the financial yardstick of whether or not by investing a sum of money in a patent application, we are reasonably likely to get dividends from that investment. We apply two yardsticks to each problem--what is the probability of our using the idea or of a competitor using it (trading value) and what is the probability of getting a patent of any reasonable worth? If an idea fails to pass either of these tests, no application is filed.

What has been said above applies obviously only to those ideas which we study. In an organization as far flung as the Rayon Department, it can easily happen that an invention is made and becomes lost in the circumstances of the moment. We try to guard against this by what devices we can and we hope that our errors will more regularly be errors of judgment rather than errors of oversight.

In this particular stroboscopic chart matter, we were aware in January 1936 of Mr. Hull's work and we knew that there was a good probability, indeed a certainty, of our using the charts. The matter of patentability was

FHP:HW

FILE COPY

Mr. L. A. Yerkes October 9, 1939

discussed between Messrs. Daley, Allen and the writer and we concluded that there was no probability of getting a patent of any worth. I send you herewith a copy of Mr. Allen's memorandum of January 10, 1936.

Depending only on recollection, I do not believe that in this discussion, we were strongly aware of that particular species using the fractional bar which became the subject matter of the Krisk patent. It would be idle for me to tell you today what position we would have taken on that day if we had been considering that particular modification.

This case, then, represents an error of judgment and not an error of omission. I hope there will not be too many similar cases in the future but I am quite certain that there will be some.

RAYON TECHNICAL DIVISION
Patent Service

F.M. Fralatovski
Director

FMF:EW
t-f
Enclosure

- 2 -

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✓ Defendant's Exhibit No. 669

E. I. DU PONT DE NEMOURS & COMPANY
WILMINGTON, DELAWARE

LEGAL DEPARTMENT
PATENT DIVISION

10/4/39

OPINION - DALTON U.S. PATENT NO. 2,161,561, ISSUED JUNE 6, 1939 ON AN APPLICATION FILED MARCH 2, 1937 - ASSIGNED TO SYLVANIA INDUSTRIAL CORP. - VALIDITY - INFRINGEMENT

By Mr. L.L. Stout's letter of July 6, 1939 a request has been made for an opinion on this patent.

In the production of our "Wind-O-Band" seals, I understand that the extrusion nozzle is designed to form narrow sections lengthwise of the tubing and disposed in the center of the transparent sections of the tubing for the purpose of permitting folding of the tubing in a regular fashion.

I understand further that because the opaque sections shrink less than the transparent sections, the opaque sections of the band are actually thicker than the transparent sections, this being due to the inherent character of the pigmented and of the unpigmented viscose and not to any difference in gage of the annular nozzle orifice.

Infringement:

The claims of this patent are quoted for convenience as follows:

1. As an article of manufacture, a shrinkable container closure having wall areas varying in thickness to produce areas of varying transparency.

2. As an article of manufacture, a relatively opaque shrinkable closure band having two opposed sections which are transparent and thinner than the remainder of the band.

3. As an article of manufacture, a shrinkable closure band having two opposite relatively thick and opaque sections and two opposite relatively thin and transparent sections.

4. As an article of manufacture, a flattened shrinkable container closure band having thick and thin wall portions which are relatively opaque and transparent respectively, the fold lines incidental to the flattening of the band being located through the center of the transparent portions.

CFD:es

5. As an article of manufacture, a relatively opaque flattened shrinkable band having two opposed sections which are transparent and thinner than the remainder of the band, the fold lines incidental to the flattening of the band being disposed through the center of the transparent portions.

6. As an article of manufacture, a relatively opaque shrinkable cap having a transparent strip extending through the longitudinal center portion thereof, the transparent portion having a wall thickness less than that of the remainder of the cap.

7. A shrinkable container closure comprising a tubing formed of cellulosic material, opaqueing pigment disposed within said material, the wall of said tubing being of varying thickness over longitudinally extending areas to cause said tubing to be transparent over the thinner areas.

8. A shrinkable container closure comprising a transparent tubing, sections of opaque material oppositely disposed longitudinally of said tubing to provide thick, opaque wall areas on said closure connected by thinner transparent areas.

This patent should be construed as not including "Wind-O-Band" seals which do not have the narrow thin sections, oppositely disposed for the purpose of folding. "Wind-O-Band" seals have been on the market since the middle of 1934, and any accidental difference in thickness between the transparent sections and the opaque sections is not properly within the scope of Dalton's claims since to consider such articles to be within Dalton's claims would be, in effect, to hold the claims invalid on account of public sale. Furthermore, "Wind-O-Band" seals, as they are made at present, should be held to infringe only those claims of Dalton which call for oppositely disposed, weakened sections.

Claim 1 is not infringed since the differential thickness in the walls of the bands does not effect varying transparency.

Claims 4 and 5 are not infringed since they call for relatively thick and relatively thin, opaque and transparent sections, the transparent sections having fold lines located in their centers.

CFD:es

Claim 7 is not infringed for the reasons given in connection with claim 1.

Claim 8 is not infringed since "Wind-O-Band" seals do not comprise sections of opaque material connected by thinner transparent areas within the sense of the patent.

Claims 2 and 3 are believed to be infringed within the sense of the patent since "Wind-O-Band" seals do have opposed transparent sections thinner than the remainder of the band.

Validity:

While no extensive search of the art has been made, we are acquainted with German Patent No. 387,302, issued Dec. 28, 1923, this patent being a statutory bar for what it shows against the Dalton patent. The German patent discloses an extruding nozzle adapted for use in the formation of ribbons from cellulosic solutions coagulated in a bath, the nozzle being provided with centrally disposed projections for the purpose of forming a thin center portion in the ribbon so as to enable the ribbon to be folded readily. It is my opinion that this German patent anticipates the Dalton patent to the extent that it is infringed, no invention being involved in applying this principle to cellulosic tubing for the purpose of facilitating folding along regular lines.

It is my opinion that to the extent it is infringed, the Dalton patent is clearly invalid.

Conclusions:

1. Claims 1, 4, 5, 6, 7 and 8 of this patent are not infringed by our present "Wind-O-Band" seal production.

2. Claims 2 and 3 appear to be infringed by our present "Wind-O-Band" seal production, but are clearly invalid over German Patent No. 387,302.

3. While we have not investigated the question since it appears to be unimportant in view of the above conclusions, we may, and probably do, have an earlier date of invention than Dalton as far as our present "Wind-O-Band" seal production is concerned since in 1936 we considered filing an application directed to the production of "Wind-O-Band" seals having thin folding lines disposed in the center of the transparent sections, but decided against it in view of the German patent noted above.

CFDies

CHARLES F. DALEY

Defendant's Exhibit No. 670

XR-25

DU PONT CELLOPHANE COMPANY, INC.

NEW YORK, N.Y.

November 22, 1932.

Mr. J.W. Hatt, General Manager,
Cellophane Department,
NEW YORK OFFICE

NEETHEIMER - U.S. PATENT #1,543,634.

I am agreeable to the purchase of the above patent, #1,543,634, on the basis of a maximum price of $500.00, and on the assumption that Mr. Seymour of the du Pont Legal Department has given his opinion with regard to the present dominance and validity of this patent.

However, as I have written you in another memorandum today, I feel that this policy of buying patents for the protection of our customers should not become a habit with us and should be very specifically limited to extraordinary cases. Each case should be very carefully examined and a decision reached on its own merits, rather than to adopt a broad policy of attempting at all times to protect our customers from more or less vague and indefinite patent situations.

Lay

LAY-ML PRESIDENT.

$1000.00 ind approved by Mr. Yerkes 11/10/32

M 430

XR-25-41

Defendant's Exhibit No. 671

CC: Dr. F. B. Benger, G.A.M., Tech. Div.
Mr. F. M. Prall - Patent Service
Mr. L. B. Steele
Dr. G. M. Karns

Wilmington, Delaware
Date May 22, 1944

TO: Mr. J. E. Hatt Mgr. Cellophane Division

2,349,247 U. S. Patent No. — Coghill (Case 2) Inventor (s) — May 23, 1944 Issue Date

PATENT SERVICE

This patent issued from application Ser. No. 408,011, filed Aug. 23, 1941

A printed copy of the patent will be forwarded when available.

Description and Patent Evaluation

This invention relates to a method and paper blank to be used in the single point closing of bags of transparent material such as regenerated cellulose, which closures may be readily and easily opened to form a pouring spout.

This is one of a series of cases which were filed to cover a large number of easy-opening, pouring spout package developments.

The claims of the patent, together with the disclosures therein, give us an effective publication of the devices developed in this invention.

Technical Evaluation

Mr. L. B. Steele, of the Cellophane Division states that this patent and the companion patent U.S. 2,349,369 cover:

"..a variety of bag closure and opening device ideas which were developed some time ago by our Package Development Dept. as an aid in expanding the usage of Cellophane bags through making them more practical from the housewife's standpoint.

"The purpose of this group of patents is not to profit directly from a monetary standpoint but to aid in the expansion in the use of Cellophane bags and thus increase the volume of Cellophane used for this purpose.

"By taking out the patents ourselves we preclude the possibility of someone else doing so and having this serve as a hindrance to our contemplated progress. It would seem logical to issue licenses for their use freely to Cellophane Converters and users."

[redacted] } publicity ([redacted] (should not be based on the issue of this patent.

Louis E. Dertt
Patent Service

DTI:DMB
5/5/44

[redacted]
W. W. Smith

Defendant's Exhibit No. 672

CC: Mr. C. F. Brown
Mr. J. B. Steele
Mr. J. E. Matt

July 7, 1941

Mr. E. C. Lake
Asst. Dir. of Sales
"Cellophane" Div.
WILMINGTON

LICENSES TO CONVERTERS UNDER CARTER U.S. PATENT NO. 2,230,559 RELATING TO TRANSPARENT HOSIERY PACKAGE

Referring to previous correspondence on this subject, we are sending you herewith the original and duplicate original copies of the standard form of license under the above patent to the following companies:

Cupples-Hesse Envelope & Lithographing Co.
Dobeckmun Co.
Humitube Manufacturing Co.
Milprint, Inc.
Shellmar Products Co.
Traver Corp.

These licenses have been executed on behalf of du Pont by Mr. May and attested by Mr. W. F. Raskob. These licenses are therefore ready for execution by your customers. You may therefore proceed with their licensing. When executed by the customers, please be sure that the space at the beginning of the agreement is filled in with the date of their execution and be sure that their corporate seal is imprinted on both copies. One copy of each executed agreement should be returned to us for filing with the Secretary and advise to the interested parties.

By virtue of the authority we were able to obtain from the Executive Committee, the granting of similar licenses to others of your customers will be a relatively simple matter. We shall be glad to obtain the necessary licenses upon your request.

11/1410

In connection with the provisions for termination in these licenses we quote the following from Mr. Daley's letter of July 2, 1941:

"I wish to point out that although these licenses are terminable by notice given sixty days prior to the end of any year, under no circumstances must they be terminated by du Pont because the licensee buys all or part of his film requirements from any company other than du Pont. All Rayon Department people who might have some connection with any termination of these agreements should be instructed to that effect.

"Also, if the Rayon Department wishes to terminate any of these agreements at any time, contact should be made with the Legal Department before taking any steps leading to termination. This is in accordance with instructions issued some time ago and governing year-to-year patent licenses terminable by du Pont."

Please be governed accordingly,

R. E. DeRight,
SPECIAL ASSISTANT

M-1410

REDibsw

Defendant's Exhibit No. 673

CC: Mr. C. H. Biesterfeld

E. I. DU PONT DE NEMOURS & COMPANY
Incorporated

LEGAL DEPARTMENT
Patent Division

October 19, 1942

Mr. F. M. Prall
Director of Patent Service
Rayon Technical Division

Re: EXPRESS vs. IMPLIED LICENSES UNDER WRIGHT PATENT NO. 1,980,566

You have asked the question whether there is any advantage in issuing written licenses under the Wright patent in contradistinction to selling tubing for use under this patent without a written license. Specifically, I understand that there is a company interested in buying gel cellulose tubing from du Pont for use in making collapsible tube containers in accordance with the teachings of the Wright patent.

We know from the numerous decisions that have been handed down by the Supreme Court and lower courts during the last ten or eleven years that a patentee may not use his patent to restrain competition in the sale of unpatented articles. How far this doctrine will eventually be extended is not clear at the present time but the courts consider all of the surrounding circumstances to determine whether a patent has been used to restrain competition in the sale of unpatented articles.

There seems to be a definite indication in most decisions in point that if the patentee issues licenses under the use patent at a substantial royalty, that is a royalty which is not merely nominal, without restraining the licensee with respect to the source of the raw material, then the patentee can enforce his patent, assuming that it is valid, against infringers on the understanding that the infringers are not purchasing the unpatented material from the owner of the patent. It would appear that if written licenses are issued for any consideration which is not a nominal or fanciful one, then the patentee may still be able to enforce his patent, e.g. where the patentee has exchanged a license under his use patent for a license under another patent.

Where the patentee has issued a license at no royalty merely for the purpose of having the licensee acknowledge validity of the patent, there is a distinct question in my mind as to whether in a situation of this sort the patentee has preserved the right to enforce his patent against infringers. This type of situation has not been passed upon by the courts in any case that I am familiar with and it is just possible that the patentee might, under such circumstances, be able to enforce his patent against the infringer on the ground that he chooses to give a

C 332-25-3

free license to one person for any reason except the intention of obtaining business thereby in the unpatented article, desiring at the same time not to license the infringer where the desire not to license is not bound up with the wish to restrain competition in the sale of the unpatented article.

There is, therefore, a possible advantage in issuing a written license at no royalty in order to preserve the validity of a patent as against having an implied license run with the sale of the unpatented article, it being understood of course that there is no restriction in the license against the licensee purchasing the unpatented material from any source.

I understand that your present desire is to issue royalty free licenses on condition that the licenses may be terminated by thirty days' notice prior to the end of any year. A thirty day cancellation clause is understood to be inserted merely for the purpose of setting up licenses on a royalty basis at some indefinite time in the future and is not in any degree intended as a threat against the license with respect to the source of the unpatented material. Such a license would appear not to be objectionable from a legal standpoint under the present state of the law although the situation could very well be colored by surrounding circumstances. However, I would much prefer to see licenses issue at a substantial royalty and issued for the duration of the war.

Conclusion:

1. While the position is open to question, there is a possibility that the issuance of written licenses under the Wright patent for the use of gel tubing in the making of collapsible dispensing tubes is preferable to the sale of the unpatented material with the implied right to use the Wright patent. The imposing of a voluntary cancellation on thirty days' notice makes the situation somewhat less favorable, but it is believed to be permissible although the licenses requiring royalty would seem to be a much better protection to the patentee as far as the enforcement of the patent against infringers is concerned. Also, it is preferable to have the license automatically terminate at the end of a stated period, e.g., when the war is over, than to have it subject to cancellation on short notice.

/s/ C. F. D.

CHARLES F. DALEY

C332-25-4.

Defendant's Exhibit No. 684

10,147

Buffalo, New York
June 22 1934

Mr. J. E. Hatt, G. M.
"Cellophane" Department
NEW YORK

I am sending you herewith a copy of U. S. Patent 1,961,268 which issued June 5, 1934 to Vess and assigned to the Du Pont Cellophane Company.

This invention relates to a process of producing film having low permanent shrinkage by swelling the strained film in a material like caustic soda, removing the swelling agent and impregnating with a softener such as glycerol and drying under conditions which impose no new strains on the film. It represents one of the earlier efforts of Kalle which we filed because we were generally interested in the subject. The process is not particularly useful, is not being used and will probably not be used.

This patent is sent to you for inclusion in your set of patents owned by the company.

F. M. KRALATOWSKI
DIRECTOR OF PATENT
SERVICE

Encl.
FMP:HB
t-f

Defendant's Exhibit No. 685

9715

DON'T SAY IT—WRITE IT

DUPONT RAYON

To Mr. F. M. Prudentowski

From E. K. Gladding

File

Date 3/19/31

This application seems to me to be of importance. We should have this patent if we can get it as it protects a possible large use of Cellophane. (Certainly it would be very inconvenient to our customers if someone else got it). Think that Church, Hyden and Snyder should be acquainted with these laminating patents.

Defendant's Exhibit No. 686

January 3, 1938.

Mr. J. E. Hatt, C.M.
DuPont Cellophane Company
NEW YORK.

RE: U.S. PATENTS NOS. 1,983,870 and 1,983,871

We are sending to you herewith copies of U.S. Patents Nos. 1,983,870 and 1,983,871. These patents issued December 11, 1934, in the name of Cathald as inventor and are assigned to the DuPont Cellophane Company. They both deal with the lamination of preshrunk sheets of regenerated cellulose to itself or to other materials. They were filed partly as a result of Mr. Dolan of the Dobeckmun Company visiting Salle & Co. and seeing their laminating machine in operation.

Patent No. 1,983,870 describes the process still in general use by the Dobeckmun Company in their laminations. It has quite good claims considering the state of the art and is of interest generally in the laminating art. The process described will not produce a sheet which is truly free from permanent shrinkage nor one which is free from deformation. The substantially complete elimination of permanent shrinkage is the subject of another of our applications already filed, and the production of non-deforming Cellophane is the subject of a memorandum now being prepared for possible filing in the Patent Office. The present patent however antedates both of these ideas.

Patent No. 1,983,871 is of somewhat less interest in that it is limited to a decorative sheet of regenerated cellulose in which the decorations are first softened by means of a solvent or the like before lamination.

These patents are sent to you for inclusion in your set of patents owned by the Company. We have specifically considered them in relation to the Sylvania agreement and consider that they do not fall under it in that they are concerned in one of their modifications in the use of moistureproof regenerated cellulose rather than the manufacture thereof.

PATENT SERVICE

1424

Defendant's Exhibit No. 687

1861

Buffalo, New York
July 28, 1936

979
8/5

DU PONT RAYON PATENT BOARD

Messrs. ~~[illegible]~~ - E.K. Gladding
J.E. Hatt- NEW YORK

SCHADE & SCHWEITZER SERIAL NO. 757,394

In 1934, Kalle submitted to us an application which had been filed in Germany and asked our decision as to filing in this country. Due to the late date at which they transmitted the information to us, we were not able to file the application within the Convention year. It therefore becomes necessary to issue the case in this country, if we wish to secure a valid patent, before issuance in Germany. In order to do this, we have expedited the prosecution of the case as much as possible and have taken an appeal which has recently been decided in our favor. A formal allowance has not yet been received, but we expect this at any minute. In order that we may issue it as soon as possible, we are desirous now of getting your permission to pay the final fee even though the case has not been formally allowed.

The case deals with a hopper construction in which adjustable obstructions are put in various parts of the hopper to regulate the flow of viscose in these parts. For example, if the film should be too thick at one particular point, the hopper lips would not be adjusted at this point, but rather a screw adjustment made to restrict somewhat the flow of viscose to that section of the hopper. Messrs. Craigue, Coleman and Evans believed that it had very interesting possibilities at the time it was filed, but due to the press of other matters, nothing has been done about it by the Company.

A typical claim is as follows:

"14. Apparatus for the casting of film which comprises a hopper, hopper lips attached thereto forming an elongated extrusion mouthpiece, means positioned within said hopper and adjacent said mouthpiece for obstructing the flow of liquid through said mouthpiece, said last named means comprising a plurality of independently operated elements, and means for operating said elements independently whereby to regulate the degree of obstruction to said liquor at various points along the length of said mouthpiece."

Even though this is not currently being used, we believe that the idea has sufficient potential importance to warrant payment of the final fee and issue in due course. In the absence of adverse comment on or before August 6th, we shall assume that this recommendation is acceptable and inform the Patent Board of the Parent Company accordingly.

GFG:EG
tf

[illegible]
[illegible]
PATENT SERVICE

Defendant's Exhibit No. 688

Ans. Ctr. 10,019

DU PONT

ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY

INCORPORATED

RAYON DEPARTMENT
TECHNICAL DIVISION

Wilmington, Delaware
August 21, 1941

Mr. C. H. Biesterfeld
Patent Division
Legal Department
WILMINGTON

MULLER & HERRMANN CASE 1 - U.S. PATENT NO. 2,252,091 (SERIAL NO. 224,819)

We are pleased to send you herewith for inclusion in your files of company owned patents originating in the "Cellophane" Division a copy of U.S. patent No. 2,252,091, which issued on August 12, 1941, upon Serial No. 224,819, filed August 13, 1938. This is a Kalle invention and the German inventors are Muller & Herrmann. The patent stands assigned to the E. I. du Pont de Nemours & Company.

This invention relates to an anchoring coating or size intermediate a moistureproofing coating composition and a non-fibrous cellulosic sheet such as regenerated cellulose film, the intermediate anchoring layer comprising an interpolymerization product obtained from polymerizable compounds containing an olefinic double bond, an ethylene alpha beta dicarboxylic acid, their anhydrides or derivatives. Such a polymerization product is, for example, a condensation product of maleic anhydride and vinyl methyl ether (called by the Germans Povimal). It appears that the success of this invention depends upon the use of a hydroxylated softener such as glycerol or glycol in the base film.

PATENT SERVICE

S. S. Prentiss

S. S. Prentiss

SSP:JCB
2t-f

Defendant's Exhibit No. 689

E. I. DU PONT DE NEMOURS & COMPANY

RAYON DEPARTMENT
TECHNICAL DIVISION

CC: Dr. G. M. Karns - Rayon Dept., Wils

Buffalo, New York
February 9, 1943

Dr. W. W. Mills (4)
Patent Service
Rayon Department
Wilmington

Subject: HEAVEN & BERRY CASE 1
SERIAL NO. 321,780
ALLOWED APPLICATION

This invention originated with B.C.L. It describes a method of making heat-sealing coatings by heating resins with plasticizers. It is claimed that the product has better heat-sealing properties than a simple mixture of plasticizer and resin.

Since improvement in heat-seal has continued to be a desirable objective, it was felt that this method or a modification of it might prove advantageous. Accordingly, application was made for patent protection.

There has been little opportunity to collect sufficient experimental data to judge the uniformity, practicality and actual potential value of the method described in the application. A procedure which would involve the heating of the lacquer bath for fifteen days or so does not appear practical. However, there may be merit in the condensation of the heat-sealing resin and a plasticizer prior to the lacquer preparation. This phase of the patent disclosure is being studied in our present program to improve heat-sealing.

Although the patent is not in commercial application at this time, it may have value in subsequent developments.

CELLOPHANE RESEARCH

William L. Hyden

WLH:JA
tf

Defendant's Exhibit No. 694

6502

A-48

DU PONT
ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED

RAYON DEPARTMENT
COMPRISING
ACETATE DIVISION
CELLOPHANE DIVISION
RAYON DIVISION

CC: Messrs. H.C. Haskell - WILMINGTON
Fin Sparre - "

Buffalo, New York
May 14, 1937

Miss H.M. Kimble
Legal Department
Patent Division
WILMINGTON

AGREEMENT BETWEEN AMERICAN SOLVENT RECOVERY CORP. AND E. I. DU PONT DE NEMOURS & CO., DATED SEPT. 10, 1934

It can well be that some years from now someone will wonder how we were administering this agreement at this and how it should be administered at that time. It seems important to me to put a letter in your file explaining the method of interpreting the agreement and of administering it and this is the purpose of this letter.

By virtue of this agreement, du Pont gets a license under certain numbered patents, under applications which were pending at that time (Sept. 10, 1934) and under any patent now or hereafter owned or controlled by the American Solvent Recovery Corp. This license of course is limited to certain uses. In other words, having paid the required royalty we have a license for all time and if the American Solvent Recovery Corp., for example, fifty years from now were to own or control a patent in this field, we could not be held for infringement. That is all very clear.

The du Pont Company has installed sufficient carbon to make up this complete license and as further installations are made, the agreement is extended by the payment of 25¢ a pound for the additional carbon capacity in accordance with Paragraph 3. When the agreement is thus extended, we again have a license under all of the patents which they may control in perpetuity.

There comes a time, say about fifteen years from now, when this group of listed patents will have expired and when perhaps the American Solvent Recovery Corp. will own and control very few patents. If at that time we wish to further extend our activated carbon installation, it will be correct for us to study the patents then existing and decide if we need a license under those patents. If we do not need a license because we are not infringing any of those patents, there would be no need to further extend the agreement. If subsequent to the installation of that carbon, the licensor owns or controls

FMP:ES

-1-

M2148

C 30 X

Miss H.M. Kimble May 14, 1937

a patent that we are infringing, I believe since we have an automatic license under that patent for the paid up capacity, that we would not be heard to say that it was invalid and we would at that time have to acquire a license by extending the agreement for the amount of material that had not been paid for.

To sum it up then, it may appear that at the present time we are automatically extending the license agreement without any reflection. Actually, we are, in effect, deciding at each time that the American Solvent Recovery Corp. owns patents which would be infringed so that a license is required.

RAYON TECHNICAL DIVISION

F.M. Pralatowski
DIRECTOR OF PATENT SERVICE

FMP:ES
2tf

M2148

Defendant's Exhibit No. 697

U.S. Patent #1,366,256 — Groves

DU PONT CELLOPHANE COMPANY, INC.

Chemical Division

Buffalo, New York

August 28, 1933

TECHNICAL REPORT

By: R. K. Noye

DU PONT CELLOPHANE COMPANY, INC.

BUFFALO, NEW YORK

TECHNICAL REPORT

August 28, 1933

File: CD-C-69-R
Log Book # 487
By: R. K. Hoye

U.S. #1,966,286 — Groves

Introduction:

This patent was worked using the specific example given for the purpose of coating P.T. Cellophane and observing the characteristics of the coated sheets.

Composition:

From the patent; if the celluloid is between 5 to 8 per cent, there may be added beeswax to constitute between 4 and 5 per cent, and paraffin wax to constitute between 2 and 3 per cent of the mixture. The formula is:

	%	Gr.
Celluloid	7.0	49.0
Du Pont Pyralin Sheeting		
White Beeswax	4.5	31.5
Beeswax Paraffin(M.P.51°C)	2.5	17.5
Solvent	86.0	602.0
	100.0	700.0

Solvent:

	%	Gr.	Sp.G.	Cc.
Benzene	61.0	367	.88	417
Acetone	30.3	182	.80	228
Alcohol (95% ethyl)	8.7	52	.79	66
	100.0			

By dissolving the celluloid in the acetone, alcohol and benzene and then adding the waxes and heating to 40°C, a homogeneous solution is obtained.

RKH:BAB
8/1/33

August 28, 1933

Coating:

P.T. Cellophane was coated with this lacquer at 40-45°C. Due to the solvents used the waxes precipitated out on the coated sheet almost immediately during the coating operation. These sheets were air dried, 8-10 hours. They were very badly blushed, non-tacky, smeared badly, had no slip whatsoever and a very waxy feel. Samples with coating thickness .00015 inches were run for M.V. and P.I.P. as follows:

	M.V.	P.I.P.
7-A15	19.5	87
	24	70
	15.5	110
	9.1	128

Conclusion:

Although the P.I.P. of the coated sheets are high, the opaqueness imparted by means of the wax blush and the odor of camphor from the celluloid, make the material absolutely unsalable for the purposes to which Moistureproof Cellophane is used.

Prepared by: H. K. Hoyt

RKH:BAB
9/1/33

Defendant's Exhibit No. 698

L-204-2

DU PONT CELLOPHANE

DU PONT CELLOPHANE COMPANY, INC.

EMPIRE STATE BUILDING
350 FIFTH AVENUE
NEW YORK, N.Y.

February 7, 1933.

COPY TO:

~~J. M. Hatt, G.M. Cellophane Dep't.~~
C. Dupont Lee, G.M. Technical Dep't.
F. M. Pralatowski, Director Patent Div., Technical Dep't.
O. M. Adamson, Secretary,
C. R. Mudge, Director Legal Dep't. - Wilmington.

TO: W. H. Farmer, Director Development Div., Technical Dep't.

ACQUISITION OF LICENSE UNDER U.S. PATENT NO. 1,420,454 FROM JOHN WILLIAM SMITH:

We have executed both copies of the license from Mr. Smith, dated February 3, 1933, under the above mentioned patent, and hand you herewith duplicate executed copy for transmittal to Mr. Smith with the consideration of $300.00, check for which I understand you will obtain from Miss Coudray, Cashier.

The original executed copy of this license is being attached to Mr. Adamson's copy of this letter, with request for acknowledgment on extra copy of the letter. A copy of the license showing all signatures will be forwarded to Mr. Mudge with his copy of this letter.

This license, bearing the approval of Mr. Hatt and that of the Wilmington Legal Department, grants to us a non-exclusive, royalty-free license for the life of the patent, which was issued June 20, 1922, to make and use throughout the U. S., its possessions and territories the invention described and claimed therein, and to make and use the invention described and claimed in any division, continuation, or reissue thereof, or described and claimed in any other patent owned by Mr. Smith covering the same invention.

Title of the patent is "Attachment for Paper Machine Driers", and I understand our particular interest in it is in use of special type of joint for rotating drier rolls in the manufacture of Cellophane.

F. [illegible] Ross,
ASS'T. SECRETARY.

1.
enclosure

Defendant's Exhibit No. 700

FILE COPY

Wilmington, Delaware
October 6, 1944

Mr. Manfred Keller
Special Assistant
Rayon Department
WILMINGTON

LICENSE FROM ALIEN PROPERTY CUSTODIAN UNDER KARFF U. S. NO. 1,654,818

In accordance with your request, I am sending you herewith two copies of Alien Property Custodian License No. 570, granting us a non-exclusive, royalty-free license under the above-identified patent. This license was granted in standard form, dated February 28, 1944. The patent expires Jan. 3, 1945.

This is the only Alien Property Custodian license in which the Rayon Department is presently involved. The license was sequired to permit the use of certain wetting agents, specifically NF-189, in the coagulating baths used in the manufacture of cellophane films. I understand that two of our Cellophane Plants are operating under this license.

This license falls within the scope of Mr. E. C. Jones' (Treasury Division) letter of September 30, 1944, and presumably a report will have to be made to the A.P.C. in the manner suggested by that letter. Since the patent expires January 3, 1945, it may be possible to make arrangements with the Custodian to permit the report to extend to the expiration date of the patent, thus avoiding the necessity of any future reports. Possibly this may be done under the provisions of Section 5 of the license.

PATENT SERVICE

W.W. Smith
Asst. Director

WWS:DMB
enclosures
P.S. Since dictating the above, I have discussed the possibility of extending the report to January 3, 1945 with Mr. Walker of the Legal Department. He agrees that this would be a desirable thing to do, suggesting that in making the report, the fact be pointed out to the Custodian, together with a statement to the effect that inasmuch as the patent has expired, no further reports will be submitted.

W.W.S.

Defendant's Exhibit No. 708

FILE COPY

cc: Mr. F. G. Ewes - Wilmington

Buffalo, New York
March 7, 1938

Mr. R. M. Horsey, Director
Development Section
WILMINGTON

LICENSE FROM THE COLUMBIA NAVAL STORES
FOR THE "REZON" PATENT NO. 2,017,866

You will recall that under the agreement, dated May 1, 1936, Columbia gives du Pont a license under the Morton patent No. 2,017,866 for the life of the patent. For a royalty of 3/4 of a cent per pound, du Pont has the right to make this material in accordance with the patent and the exclusive right to use a product containing this material on cellulosic wrapping material as well as an exclusive right to sell to others such Rezon containing products for application to cellulosic wrapping material.

Du Pont does not have an exclusive license for the use of Rezon other than in connection with cellulosic wrapping material. For other such uses, it pays a royalty of 1/2 cent per pound.

Du Pont may, on sixty days' written notice, surrender its exclusive license in regard to cellulosic wrapping material and, while the agreement does not specifically say so, it really changes its exclusive license to a non-exclusive license at a royalty of 1/2 cent per pound.

It is further provided that if, after the expiration of two years from the date of the agreement (May 1, 1936 to May 1, 1938), the royalties payable by du Pont under the exclusive license do not exceed $175.00 for any six month period, Columbia may cancel the exclusive license and here, again, it really means that the exclusive license is changed to a non-exclusive license.

For your information, Rezon is now used and will be used in the future in the formulation of moistureproof lacquers for regenerated cellulose film. The amount so used is estimated at 18,000 pounds per year. At the exclusive royalty rate of three-fourths of a cent (3/4 cent) per pound, this amounts to $67.50 for a six months' period.

RAYON TECHNICAL DIVISION

H.V.G.

S. S. Prentiss
PATENT SERVICE

SSP:HV
t-f

Defendant's Exhibit No. 709

Form R-12002

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE

RAYON DEPARTMENT
COMPRISING
ACETATE DIVISION
"CELLOPHANE" DIVISION
RAYON DIVISION

EXECUTIVE COMMITTEE
EXH'S NO. 7873

December 27, 1937.

TO: EXECUTIVE COMMITTEE.

FROM: L. A. YERKES, GENERAL MANAGER,
RAYON DEPARTMENT.

CROSS-LICENSING AGREEMENT WITH NATIONAL ADHESIVES CORPORATION COVERING U. S. PATENTS NOS. 1,953,104 and 2,073,927 re. ADHESIVES:

Our U. S. Patent No. 1,953,104, which issued April 3, 1934, dominates U. S. Patent No. 2,073,927, which issued March 16, 1937, and is owned by the National Adhesives Corporation, of New York, N. Y.

When we noted the issuance of National's patent, the operation of which would infringe ours, we faced the alternative of suing them for infringement in order to properly police our patent, or to grant them a license.

Our interest in adhesives is to facilitate the sale and use of "Cellophane" film. With this end in view, and to avoid litigation, we offered to exchange licenses with National under these patents, and the enclosed form of agreement is satisfactory to them.

Under this proposed agreement, which was approved by the Legal Department, du Pont and National agree to exchange non-exclusive, non-assignable, royalty-free licenses for the United States, its territories and dependencies, under their respective patents mentioned above, viz:

(a) to make, sell and use the adhesive compositions described and claimed in said patents;

(b) to sub-license others to use, but not to make or sell said adhesives;

(c) each party has right to terminate license and sub-licenses, if any, on 30 days' notice.

Recommendation is made for authorization to execute this agreement on behalf of du Pont.

L. A. Yerkes,
GENERAL MANAGER.

1.
enclosure

Defendant's Exhibit No. 710

E. I. DU PONT DE NEMOURS & COMPANY

RAYON DEPARTMENT

Wilmington, Delaware
December 1, 1948

TO: COMMITTEE ON PATENTS

FROM: RAYON DEPARTMENT

PROPOSED AGREEMENT WITH CAMERON MACHINE COMPANY
UNDER JOHNSTONE PATENT U.S. 2,082,634

The Spruance Cellophane Technical Group designed an edging apparatus for maintaining continuous film alignment during its travel from the mill roll to the knives of a slitting machine, which has made it possible to increase slitting speeds from approximately 200 yards to 333 yards per minute. Briefly stated, this apparatus is fluid pressure-operated and substantially eliminates the time lag which characterizes the control mechanism heretofore employed.

It was thought that this apparatus might infringe claim 11 of Johnstone U.S. 2,082,634 (Cameron Machine Company). In an Opinion dated November 4, 1947, our attorney, Mr. A. R. Snyder, held claim 11 infringed and valid.

After several meetings, Cameron has agreed to license us under claim 11 of U.S. 2,082,634 at the rate of $150. for each edger built by us and installed on our slitting machines. At present, this edger is in use on 27 slitting machines with 11 more planned for Clinton, indicating a total prospective royalty of $5,700.

We request authority to execute the attached licensing agreement with the above company which grants us a royalty bearing, non-exclusive, non-assignable and indivisible license to make and use, only in our own plants and only on machines of our own manufacture, but not to sell or lease, devices embodying the invention recited in claim 11 of U.S. Patent 2,082,634 at the rate of $150. per device. The patent issued on June 1, 1937.

The proposed licensing agreement was prepared by Mr. A. R. Snyder of our Legal Department and has been approved by the Legal Department as to form and by the Patent Board.

A. KUNSMAN, MGR.
CELLOPHANE DIVISION.

Approved by: B. H. May
General Manager
Rayon Department

SYLVANIA SALES OF MOISTUREPROOF CELLOPHANE RELATED TO PROVISIONS OF DU PONT LICENSE AGREEMENT (GOVERNMENT EXHIBIT No. 2487)

	Sylvania Sales Subject To License Agreement	Du Pont U.S. Sales of Comparable Types of Cellophane	Total Sales	Sylvania As % Of Total	Years Agreement Provided for Additional Royalty: % Of Total Sylvania Could Sell Without Paying 20¢ Additional Royalty	Additional* Pounds Sylvania Could Have Sold Without Paying 20¢ Additional Royalty	Additional Pounds As % of Sylvania Total Sales
	Pounds	Pounds	Pounds				
1933							
April 27 - June 30	563,373	4,335,376	4,898,749				
3rd Qtr.	895,388	6,527,624	7,423,012				
4th Qtr.	828,834	4,871,475	5,700,309				
Total	2,287,595	15,734,475	18,022,070	12.7	20	1,646,024	72.0
1934							
1st Qtr.	1,200,929	5,743,572	6,944,501				
2nd Qtr.	1,516,480	6,621,927	8,138,407				
3rd Qtr.	1,267,108	7,065,617	8,332,725				
4th Qtr.	1,420,128	6,288,947	7,709,075				
Total	5,404,645	25,720,063	31,124,708	17.4	21	1,432,334	26.5
1935							
1st Qtr.	1,261,495	6,711,667	7,973,162				
2nd Qtr.	1,860,158	7,605,308	9,465,466				
3rd Qtr.	2,105,086	7,723,648	9,828,734				
4th Qtr.	2,290,701	7,216,483	9,507,184				
Total	7,517,440	29,257,106	36,774,546	20.4	22	734,564	9.8
1936							
1st Qtr.	1,988,857	7,633,890	9,622,747				
2nd Qtr.	2,684,968	9,205,008	11,889,976				
3rd Qtr.	2,508,133	9,916,064	12,424,197				
4th Qtr.	2,791,040	10,269,144	13,060,184				
Total	9,972,998	37,024,106	46,997,104	21.2	23	1,086,151	10.9
1937							
1st Qtr.	2,247,220	10,027,710	12,274,930				
2nd Qtr.	3,154,376	11,631,525	14,785,901				
3rd Qtr.	2,859,006	10,997,822	13,856,828				
4th Qtr.	2,687,708	9,555,126	12,242,834				
Total	10,948,310	42,212,183	53,160,493	20.6	24	2,381,853	21.8
1938							
1st Qtr.	2,521,604	9,838,962	12,360,566				
2nd Qtr.	3,296,619	11,331,975	14,628,594				
3rd Qtr.	3,712,186	11,781,182	15,493,368				
4th Qtr.	3,489,049	11,050,754	14,539,803				
Total	13,019,458	44,002,873	57,022,331	22.8	25	1,648,166	12.7
1939							
1st Qtr.	3,043,815	11,586,898	14,630,713				
2nd Qtr.	3,538,854	14,253,581	17,792,435				
3rd Qtr.	4,037,185	14,944,677	18,981,862				
4th Qtr.	3,995,926	13,536,000	17,531,926				
Total	14,615,780	54,321,156	68,936,936	21.2	26	4,470,032	30.6
1940							
1st Qtr.	3,438,537	13,262,115	16,700,652				
2nd Qtr.	4,001,961	15,692,341	19,694,302				
3rd Qtr.	4,028,981	16,173,558	20,202,539				
4th Qtr.	4,424,263	15,842,911	20,267,174				
Total	15,893,742	60,970,925	76,864,667	20.7	27	6,657,148	41.9
1941							
1st Qtr.	4,340,098	15,608,518	19,948,616				
2nd Qtr.	5,198,404	19,654,981	24,853,385				
3rd Qtr.	5,239,782	21,529,279	26,769,061				
4th Qtr.	5,430,058	20,610,897	26,040,955				
Total	20,208,342	77,403,675	97,612,017	20.7	28	9,893,087	49.0
1942							
1st Qtr.	6,425,677	18,570,365	24,996,042				
2nd Qtr.	5,947,600	15,419,910	21,367,510				
3rd Qtr.	5,703,091	18,549,668	24,252,759				
4th Qtr.	5,654,988	19,160,646	24,815,634				
Total	23,731,356	71,700,589	95,431,945	24.9	29	5,554,800	28.4
1943							
1st Qtr.	6,723,256	20,225,639	26,948,895				
2nd Qtr.	5,867,079	20,312,882	26,179,961				
3rd Qtr.	5,638,285	21,512,527	27,150,812				
4th Qtr.	5,704,450	19,505,556	25,210,006				
Total	23,933,070	81,556,604	105,489,674	22.7	29	9,378,782	39.2
1944							
1st Qtr.	6,577,400	21,582,599	28,159,999				
2nd Qtr.	6,153,087	19,363,357	25,516,444				
3rd Qtr.	5,637,594	18,676,301	24,313,895				
4th Qtr.	4,932,374	19,055,956	23,988,330				
Total	23,300,455	78,678,213	101,978,668	22.8	29	8,835,717	37.9
Total April 27, 1933 - December 31, 1944, Incl.	170,833,191	618,581,968	789,415,159	21.6		53,718,658	31.4

*No Royalty whatever was payable on sales by Sylvania for Export.

Source: Royalty Report and Files - Film Department of E. I. du Pont de Nemours & Co.

No. 712

Yeara Agreement Revised to Exclude Additional Royalty Feature
Computed to Show Situation As If Revision Had Not Taken Place

	Sylvania Sales Subject To License Agreement	Du Pont U.S. Sales Of Comparable Types Of Cellophane	Total Sales	Sylvania As % Of Total	% Of Total Sylvania Could Sell Without Paying 20¢ Additional Royalty	Additional Pounds Sylvania Could Have Sold Without Paying 20¢ Additional Royalty	Additional Pounds As % Of Sylvania Total Sales
	Pounds	Pounds	Pounds				
1945							
1st Qtr.	5,465,314	20,017,567	25,482,881				
2nd Qtr.	5,423,619	18,427,482	23,851,101				
3rd Qtr.	5,405,034	19,638,942	25,043,976				
4th Qtr.	5,464,985	21,389,980	26,854,965				
Total	21,758,952	79,473,971	101,232,923	21.5	29	10,702,247	49.2
1946							
1st Qtr.	6,967,507	23,016,111	29,983,618				
2nd Qtr.	6,943,117	22,527,793	29,470,910				
3rd Qtr.	7,864,324	22,723,078	30,587,402				
4th Qtr.	7,536,190	21,949,028	29,485,218				
Total	29,311,138	90,216,010	119,527,148	24.5	29	7,537,655	25.7
1947							
1st Qtr.	7,323,467	23,999,518	31,322,985				
2nd Qtr.	7,796,386	25,583,538	33,379,924				
3rd Qtr.	8,263,281	29,096,460	37,359,741				
4th Qtr.	8,452,567	30,306,069	38,758,636				
Total	31,835,701	108,985,585	140,821,286	22.6	29	12,679,538	39.8
1948							
1st Qtr.	8,569,610	30,445,733	39,015,343				
2nd Qtr.	8,723,073	32,680,809	41,403,882				
3rd Qtr.	8,782,360	35,028,932	43,811,292				
Total	26,075,043	98,155,474	124,230,517	21.0	29	14,016,629	
Total January 1, 1945 Oct. 31, 1948, Incl.	108,980,834	376,831,040	485,811,874	22.4		44,936,069	41.2
Total April 27, 1933 - Oct. 31, 1948, Incl.	279,814,025	995,413,008	1,275,227,033	21.9		98,654,727	35.3

1471

Defendant's Exhibit No. 713

378

DU PONT CELLOPHANE COMPANY, INC.

ANSWERED
NOV 7 - 1935
W.S.CARPENTER, Jr.

Buffalo, N. Y.
October 31st, 1935.

Mr. W. S. Carpenter, Jr., Vice-Pres.
E. I. du Pont de Nemours & Company
Wilmington, Del.

Subject: Sylvania Industrial Corp.

Confirming conversation with you last Friday, the following analysis is submitted, based on investment and earnings data disclosed in circular issued by Hallgarten & Company, et al., in connection with a recent offering of 100,000 shares (no par) capital stock of Sylvania Industrial Corporation. These shares were originally issued to their foreign associate, Societe Industrielle de la Cellulose, S.A. ("Sidac") of Ghent, Belgium, in payment of patents, process rights, sales rights, etc. This stock is now offered to the public at $26.50 per share, as more fully disclosed in the attached circular.

It is not possible to segretate Sylvania's earnings or investment as between cellulose film, caps and bands, sausage casings, horsehair, and other allied lines. However, it is assumed that all items except cellulose film are relatively unimportant. For comparative purposes, we have also included the "Cel-O-Seal" Division's investment and earnings in our figures.

EARNINGS:

Profit before Federal and State Income Taxes and Capital Stock Tax compares as follows:

	Sylvania	% Incr. over Previous Year	Du Pont Cellophane Co.	% Incr. over Previous Year
1931	$ 95,567.		$5,283,807.	
1932	457,714.	379.0	3,841,858.	27.3 Dec.
1933	653,801.	42.8	4,955,180.	29.0
1934	1,213,974.	85.7	5,954,451.	20.2
1935	a 1,148,510.	5.0 Dec.	b 5,909,034.	.8 Dec.
Total Investment 6/30/3	6,825,536.		24,560,845.	
% Return	16.8		24.1	

AT-6339

DuP 71M 67.
12/4/41

CELLOPHANE IS A REGISTERED TRADE MARK AND SHOULD BE SPELLED WITH A CAPITAL C

a - First six months actual. Last six months based on estimated sales of 5,728,000 pounds, at a profit of $.11 per pound.

b - [illegible] months actual Last three months per #4 Forecast.

Although the earnings figures projected for Sylvania Corporation for year 1935 show a 5% decline over year 1934 figures, it is quite within the range of possibility that their profit for the year 1935 will equal or exceed the profit for the year 1934. This statement is based on the fact that Sylvania's percentage of combined sales of Du Pont and Sylvania moistureproof cellulose film is appreciably higher in the third quarter of 1935 than what it was for the first six months, and although Sylvania pays us a royalty on sales of moistureproof film of 2%, they still make a higher profit on moistureproof transparent than plain transparent film. In other words, to such extent as the net profit on combined sales is in excess of $.11 a pound, the forecasted earnings for the last six months of this year will be increased proportionately. There is also a possibility that their actual sales for the last quarter may be higher than our estimate.

ESTIMATED SYLVANIA CORP.
PRODUCTION AND SALES:

Since it is not practical to carry large inventories of Cellophane at any one time, we have assumed for practical purposes that Production and Sales are approximately the same.

Basis of Sales Estimate:

Sales of Plain Transparent "Cellophane" for the first nine months of 1935 represented 29.4% of Total Sales. We assumed Sylvania's Sales to be 5% higher, or 34.4%. This gives Sylvania a moistureproof factor of 65.6%, which compares favorably with the 65% figure Dr. Wallach gave our General Manager several months ago.

Dr. Wallach reported actual sales of moistureproof film for the first nine months of 1935 to be 5,087,561 pounds; divided by 65.6% gives us a total of 7,755,000 pounds for both plain and moistureproof qualities. The sales for the last quarter of the year are usually about the same as the average for the first three quarters; however, as the "Cellophane" Department have placed their estimate at 3.7% above the average, we have used the same basis to forecast Sylvania's last quarter Sales, or 2,686,000 pounds. Total for the year 1935 10,441,000, or in round figures, 870,000 pounds monthly.

Mr. W. S. Carpenter, Jr. October 31st, 1935.

INVESTMENT JUNE 30, 1935:

	Sylvania	Per 100# Est. Monthly Sales	Du Pont Cellophane	Per 100# Est. Monthly Sales
Working Capital				
Cash	$ 95,868.	11.02	$1,140,100.	31.94
Accts. Rec. Com'l. (Less Reserves)	308,340.	35.44	1,039,404.	29.11
Accts. Rec. All Others	7,212.	.83	18,845.	.53
Inventories	852,875.	98.03	1,323,888.	37.08
Deferred Charges	60,678.	6.97	28,606.	.80
	$1,324,973.	152.29	$3,550,843.	99.46
		Per Casting Machine		Per Casting Machine
Fixed Investment	$5,500,563.	393,000.	$21,010,000.	525,000.
Total Investment	6,825,536.	487,600.	24,560,843.	613,700.
Casting Mach. Installed	14		40	
Annual Production Capacity (Present Speed)	*11,200,000.	800,000	58,000,000	1,455,000
Fixed Investment (per lb. Annual Capacity)	.49		.36	
Working Capital (per lb. Annual Capacity)	.16		.06	
Total Investment (per lb. Annual Capacity)	.65		.42	
Production 1935 (Est.)	10,441,000	745,785	43,059,000	1,076,475
Total Number Employes	1,100	85.7	2,196	x 68.6
Total employes, including indirect common facilities, etc.			3,000	
Monthly Production per Employe (lbs.)	791		1,196	
Sales 1935-lbs. (Est.)	10,441,000		42,840,087	
Net Receipts (Est.)	$1,148,510.		$5,909,034.	
Net Receipts Per lb.	.11		.138	

Mr. W. S. Carpenter, Jr. October 31st, 1935.

Gold bullion held abroad valued at $295,837.70 and marketable securities [illegible],000.00 have been excluded from Sylvania's figures.

[illegible] investment in Old Hickory Village and Bayon Common Facilities.

x Based on 32 casting machines; 8 machine plant at Buffalo idle.

* Since Sylvania has installed two machines annually since 1932, it is believed that they have very little or no extra capacity and the last two machines probably came into production during July or August. On this assumption, we believe their present capacity to be approximately 11,200,000 pounds. They are probably operating at a speed of only 25 meters with slightly wider rolls than our own, as compared with our present standard speed of 45 meters.

DEPRECIATION:

With the known factors of depreciation set-aside and number of casting machines installed annually, it is possible to project fairly accurate depreciation charge per casting machine as compared with our own experience. We assumed in each case that depreciation on new machines started on July 1st.

	SYLVANIA			DU PONT		
	Amount Charged	Avge. No. Mach. Installed	Dep. Chgs. per Cast-Mach.	Amount Charged	Avge. No. Cast. Mach. Installed	Dep. Chgs. per Cast-ing Mach.
1931	[illegible].	4	39,693.	978,944.	32	35,919.
1932	128,017.	7	32,574.	1,433,051.	37	38,731.
1933	267,066.	9	23,674.	1,548,690.	40	38,717.
1934	314,973.	11	28,634.	1,571,923.	40	39,298.
**1935	338,278.	13	26,021.	1,321,012.	40	33,025.
Avge.	265,570.	8.9	31,359.	1,370,724.	37.8	37,138.

**First six months annual basis.

	Sylvania	ØØDu Pont
Fixed Investment - 6/30/35	$5,500,563.	$21,010,000.
Depreciation Reserve Balance - 6/30/35	1,069,731.	6,889,654.
Reserve as % of Fixed Investment	19.4	32.8

ØØIncludes allocated Common Facilities.

Sylvania's Depreciation charges of $169,138.92 for the first six months of 1935, based on Fixed Investment at June 30th, 1935, of $5,500,563.04, are equal to an annual rate of 6.2% as compared with our own composite rate of 6.4%. It is our opinion that the Sylvania depreciation rates were reduced very little, if any, during the years 1931 to 1935, whereas our own rates were substantially increased on the Moistureproof Investment on January 1st, 1932. These rates were again adjusted downward on January 1st, 1935.

PATENT EXPENSE:

An examination of the balance sheet discloses the fact that Rights, Patents, and Processes, less amortization ($424,860.74) amounted to $2,612,139.26 as of June 30th, 1935, or a total before Amortization of $3,037,000. These items have been amortized as follows:

1931	$ 50,000.00
1932	50,000.00
1933	96,568.52
1934	108,823.40
6 Mos. ending 6/30/35	69,468.82
Total	$374,860.74

Since the amortized portion is $50,000.00 in excess of the above amounts, it is apparent that this amount was written off in the year 1930. It is our opinion, therefore, since the amounts amortized yearly since 1932 have been substantially increased and vary from year to year, that they are capitalizing their Patent Expense as opposed to our policy of taking up Patent Expense currently against operating cost. To such extent, therefore, that the current Patent Expense differs from the amount amortized, profits from operations will be similarly affected in our comparisons of Net Earnings. In other words, this would have the effect of deferring or spreading the Patent Expense, presumably over the life of the patents, with resultant higher net profit for the years under consideration.

SHARE EARNINGS:

The attached pamphlet shows the per share net profit based on 420,002 shares outstanding to be $1.25 for the year 1933; $2.37 for the year 1934; and $.95 for six months ending June 30th, 1935

Mr. W. S. Carpenter, Jr. October 31st, 1935.

1935. We estimate the net profit for the full year 1935, based on sales of 10,441,000 pounds, after deducting Federal and State Income Taxes and Capital Stock Tax, to amount to $942,195., equal to $2.24 per share.

We have limited our discussions to such details as are not clearly brought out in the comparative figures which we believe to be self-explanatory. It is fair to state, however, that in considering the results from a net profit standpoint, Du Pont Cellophane Company figures would make a much more satisfactory showing if it were not for the fact that we have been absorbing the fixed charges, such as Taxes, Insurance, and Depreciation, on the idle eight-machine unit at Buffalo, amounting to approximately $225,000. per year.

We also attach comparative income statement with adjustments to reflect more accurate net results for the years under review.

C. M. Albright
TREASURER.

CMA-K
cc: Mr. L. A. Yerkes, President, New York Office
Mr. J. E. Hatt, Genl. Mgr., "Cellophane" Dept., New York

6339

Defendant's Exhibit No. 714

FILE COPY

CC: Dr. G. M. Karns, Wilm.
Dr. W. L. Hyden, Bflo.

Wilmington, Delaware
May 11, 1942

Mr. J. E. Hatt, Manager
Cellophane Division
Rayon Department
WILMINGTON

U.S. PATENT NO. 2,273,677 - SYLVANIA INDUSTRIAL CORP.
LAMINATED SHEET MATERIAL

This will confirm our conversation on Friday, May 8, 1942 relating to the above patent.

We have studied the disclosures and claims in this patent and have discussed the technical aspects and possible utility of it with research. This patent is not infringed by any of our present operations. The technical people state that they see no utility for this patent at the present time. The patent, therefore, is of no concern to us at the present time and the chances of its becoming important to us later are relatively small. We recommend, therefore, that we do not approach Sylvania for a license under this patent at the present time. A discussion of this patent and the basis on which this recommendation is made is given below.

The object of the invention described in this patent was to provide a laminated sheet material from transparent pellicles formed of hydrophilic colloids, which material had sufficient rigidity to be used in the manufacture of shaped articles such as boxes, containers, window panes and the like. The laminated material was to be transparent, resistant to swelling unevenly and buckling on changes of relative humidity and temperature and the sheets adhered together sufficiently well so that they would not separate easily.

Both process and product claims were obtained. Claims 1 and 10 are quoted below:

"Claim 1. As an article of manufacture, a composite sheet material comprising a plurality of hydrophilic non-fibrous cellulosic pellicles united by a composition containing an adhesive consisting essentially of a hydrophilic cellulose ether.

"Claim 10. In a process for making a composite sheet material comprising uniting a plurality of hydrophilic non-fibrous cellulosic pellicles while in the wet gel state with an aqueous composition containing an adhesive consisting essentially of a hydrophilic cellulose ether."

LLS:JCB -1-

FILE COPY

Films Lamination

Mr. J. E. Batt

May 11, 1942

The films to be laminated may be composed of cellulose hydrate and water-soluble and alkali-soluble cellulose ethers. Regenerated cellulose and lowly substituted ethyl cellulose fall in this class.

The adhesivesused in laminating the pellicles comprise a cellulose ether of the type which are soluble in alkali solutions, those which are soluble in cold water but not in hot water, and those types soluble in both hot and cold water, and these media serve as the vehicle of the adhesives.

It is, of course, old in the art to laminate cellulosic pellicles of this type involving the use of a large number of adhesives. The present patent covers the lamination of a particular type of cellulose film with a particular type of adhesive. The patent is, therefore, narrow and specific and is not dominating in the lamination field.

The technical people have stated that there appeared to be nothing exceptional about the methyl cellulose lamination which could not have been accomplished by other well known adhesive materials such as gelatin, casein and dextrinized starch. They see no utility in the patent at the present time.

In view of the fact that the patent claims are not infringed by any of our present operations and that the technical people see no probable chance of using a process or making a product which would infringe the claims in the future, the above-mentioned recommendation was made that we do not approach Sylvania at this time to obtain a license under this patent.

PATENT SERVICE

L. L. Stout

LLS:JCB
E-F

-2-

Defendant's Exhibit No. 715

E. I. DU PONT DE NEMOURS & COMPANY

CC: Dr. G. H. Emrus - Rayon Dept., Wilm.
Dr. W. L. Ryden - Buffalo

RAYON DEPARTMENT
TECHNICAL DIVISION

Buffalo, New York
June 9, 1943

Mr. F. M. Prall (2)
Patent Service
Rayon Department
Wilmington

Subject: SYLVANIA AGREEMENT

In your letter of April 27th to Dr. W. L. Ryden, you request our opinion regarding the future utility of nine Sylvania patents under which we have a license.

We cannot foresee any circumstances where we will operate under the following patents:

No. 1,989,683
2,121,023
2,170,632
2,245,499

Comments on the remaining are as follows.

No. 2,053,781 and 2,053,782 - Methods for depositing wax on a film. This is of no interest for viscose type films but it may be of use with other films such as cellulose acetate.

No. 1,997,106 - This will probably not be used. During the war period, however, when a shortage of raw materials such as damar exists, we may find it necessary to use blown oil as a blending agent.

No. 1,997,105 - A three-way composition of nitrocellulose, plasticizer and wax with materials available at the time the patent was written is of no interest. It is conceivable that new waxes will be developed that can be used in such combinations, particularly for L-type formulas.

No. 2,285,852 - A composition with urea formaldehyde resin that is present in greater amount than the combined quantities of all other ingredients. If we were to

JCB:JA

sell sub-coated film, this condition could exist and there is a probability of our doing so. Sub-coated film would be used by converters such as Monsanto where a rubber-wax composition is applied. A film having sub-coat on one side and a sub-coat plus top-coat on the other side may also be desirable for laminating purposes at converter plants.

The patents forwarded with your letter are enclosed.

CELLOPHANE WEBBANCE

J. C. Siemann

JCS:JA
Encs.
tf

P.S.: Since conditions are apt to change quite rapidly, it is impossible to consider these opinions as final. It is, therefore, suggested that the patents be reviewed after several years have elapsed.

J. C. S.

Defendant's Exhibit No. 716

DEFENDANT'S EXHIBIT NO. 2114A

E. I. DU PONT DE NEMOURS & COMPANY

Rayon Department
Technical Division

cc: Mr. A. E. Buchanan, Jr., Wilmington
Mr. W. L. Hyden, Buffalo
FMP Mr. F. M. Prall, (2), Wilmington

Wilmington, Delaware
January 2, 1945

RECEIVED
RAYON DEPARTMENT
JAN 3 1945
PATENT SERVICE

Mr. J.E. Hatt
Manager - Cellophane Division
Rayon Department
Wilmington

Subject: SYLVANIA PATENTS

We have again looked over the Sylvania patents coming under the scope of our agreement, with the idea of predicting their future usefulness to us. We find in this list of nine patents, none which we have any reasonable expectation of having to use.

It is unlikely that we will ever have any interest in patents Nos. 1,989,683, 2,053,781, 2,053,782 and 2,170,632. Patents Nos. 1,997,106 and 2,121,823 are in about the same category. It is possible that patent No. 1,997,105 offers a route toward an L.S.T. film which might be interesting to us, according to Dr. Mitchell. Unless the requirements for control in L.S.T. film become quite stringent, I think it unlikely that we would spend much research money developing this type further. In the event that we did for special uses it might be best to go along the route of very light coatings of newer moisture-proofing materials now being developed. No. 2,245,499 has possibilities as an anti-static treatment as well as giving a means of controlling slip. With the new type of coatings with which we are working, it might be to our advantage to use this patent, but the slip problem is of such nature that we are not likely to be forced to use it at a penalty exceeding the cost of a sound research program.

The patent of greatest interest is No. 2,285,852. This type of material might be a specialty item post-war. Our Grade "C" ordnance wrap is the closest product we now have to this, and while it does not infringe, it would come close to doing so if we included in its composition, for one reason or another, small amounts of nitrocellulose.

These patents are being reviewed by our people annually with the idea of putting them in use before the expiration of the Sylvania agreement if they are of possible permanent value to us.

CELLOPHANE RESEARCH

/s/ G. M. KARBS

G. M. KARBS

GMK:fms
frt

M 2564

Defendant's Exhibit No. 722

CC: Mr. J.A. Hatt
Messrs. ~~Lee Hersey~~ Grall
Mr. C.M. Albright
Mr. C.F. Daley
Dr. Fin Sparre
Mr. H.C. Haskell (2)
Mr. A.C. Nielsen
Mr. [illegible]R. Dent

DU PONT
ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
WILMINGTON, DELAWARE

RAYON DEPARTMENT
COMPRISING
ACETATE DIVISION
CELLOPHANE DIVISION
NYLON DIVISION
RAYON DIVISION

April 21, 1943

Mr. W. F. Raskob (2)
SECRETARY

LICENSE TO DU PONT FROM SYLVANIA UNDER
REICHEL & CORNWELL PATENT NO. 2, 281,513

We send you herewith for filing the duplicate original executed copy of the above license agreement. The agreement is dated April 20,1943 and is executed on behalf of the du Pont Company by Mr. B. F. May and attested by Mr. W. F. Raskob; and on behalf of Sylvania by Mr. F.H.Reichel President, and attested by Mr. G.H. Hills, Secretary.

Copies of the agreement are not being sent to recipients of copies of this letter. The following explanatory comments apply to the agreement:

The Reichel and Cornwell patent involves the use of diethylene glycol and glycerin as a softener in moistureproof and plain transparent cellulose sheeting. The claims are in terms of wrapping frozen foods, such as fish, etc., with a sheeting containing the diethylene glycol softener. In view of the glycerin shortage, we may be forced to use diethylene glycol which would make those of our customers who wrap frozen food with the sheeting primary infringers, and ourselves contributory infringers.

Under the agreement Sylvania grants to du Pont, restricted to moistureproof cellophane, a non-exclusive, royalty-free license, together with the full right to sub-license others at no royalty. The agreement was negotiated in order to avoid our becoming a contributory infringer at a later date, and the full right to sub-license others was included for the benefit of our customers.

This agreement does not require Executive Committee approval because it does not involve transfer of du Pont property.

This agreement is not subsidiary to the main Sylvania agreement.

Please acknowledge receipt of this agreement on the extra copy of this letter.

M.K.

Manfred Keller
SPECIAL ASSISTANT

MK:C
Enclosure

M 2568

Defendant's Exhibit No. 725

FORM 1043 SM 10-33

DUPONT

ESTABLISHED 1802

E. I. DU PONT DE NEMOURS & COMPANY
(INCORPORATED)
WILMINGTON, DELAWARE

LEGAL DEPARTMENT
PATENT DIVISION

January 24, 1933.

Mr. L. A. Yerkes,
DuPont Rayon Co.,
Empire State Building,
New York City.

I discussed with Messrs. Pritchard and Morris the question of your policy in expediting a settlement with Sylvania. We believe that at the present moment we should not occasion any delay in the progress of the suit. As for our future policy, that will depend entirely on what kind of proposition Mr. Wallach may present. At the present time we are preparing for the trial to take place in April. The bill of complaint has been sent to Virginia for filing. We expect Mr. Wallach will have his answer filed within twenty days and thereupon we will immediately file our interrogatories. I would not postpone this procedure, for if the negotiations come to nothing, it would be better to have the case tried without delay.

I will send you a copy of the bill of complaint, as I am having several made.

C H Biesterfeld
C. H. BIESTERFELD.
C. H. Biesterfeld

CHB/McD.

M 6

Defendant's Exhibit No. 727

E. I. DU PONT DE NEMOURS & COMPANY

WILMINGTON, DELAWARE

LEGAL DEPARTMENT
PATENT DIVISION

November 1, 1933

J. F. HAYT, GENERAL MANAGER
DU PONT CELLOPHANE COMPANY
NEW YORK CITY

RE: CI-25d
HY-SIL MANUFACTURING CO.

We have been considering this subject during the last ten days in order to give you our views on further procedure here. You will recall that you asked us to make an early disposition of the matter. We were not satisfied with the first search and so we had our Washington office make a further search during the last few days, the results of which are now before us. Upon going over the patents found in the search we do not consider them anticipatory. Consequently, we are still without an adequate reference against the Brandenberger patent 1,406,148.

You will recall that Mr. Biesterfeld discussed this patent with Mr. Watson and the latter took the position that the patent was without inventive merit and would offer only a very nominal royalty for a license under it. Of course, there is no object in giving them a license for nothing and so the matter was temporarily dropped. The only way to do now is to file suit provided that there is a fair chance of prevailing in such suit.

On the latter point our position is as follows: We have not yet found a direct anticipation of the patent, but the total time spent on the searches has been approximately one week. Perhaps a reference could be found by further search, but we do not think that advisable now. It is not likely that a direct anticipation would be found in the Cellophane art. However, in analogous art, paper etc., it might be possible that the defendant would find a satisfactory reference.

There is, furthermore, the defense of lack of invention. Defendant would contend that there is nothing novel or inventive in the idea of preventing a rupture or tear in

M-480

xf-23.68

the Cellophane strand by folding over the edge so as to present a folded-over edge. Defendant would be able to cite instances in the clothes art where hems are folded over to prevent fraying and tearing and defendant would, therefore, argue that there was no invention in doing this with Cellophane. Other analogous instances would no doubt be cited by defendant after a long and diligent search. As the matter now stands our opinion is, if you file suit, you will take a risk of defeat, but the quickest way to find out where you are in this matter is to file a bill of complaint and let defendant file his answer and let you know where he is.

C. H. BIERSTEDT.

CHB/L

JOHN L. SEYMOUR

m-480A

BOARD OF DIRECTORS,
DU PONT CELLOPHANE COMPANY, INC.

Defendant's Exhibit No. 734

The membership of the Board of Directors, Du Pont Cellophane Company, Inc., (#1 company from June 23, 1923 to dissolution April 1, 1929); (#2 company from April 1, 1929 to dissolution June 30, 1936); consisted of the following individuals for the periods shown, viz:

Name	Affiliated With	Period
DU PONT CELLOPHANE COMPANY, INC. #1		
W. S. Carpenter, Jr.	E. I. du Pont de Nemours and Company	June 23, 1923 to April 1, 1929
Lammot du Pont	" " "	June 23, 1923 to May 3, 1926
B. M. May	" " "	June 23, 1923 to May 3, 1926
F. W. Pickard	" " "	June 23, 1923 to April 1, 1929
Fin Sparre	" " "	June 23, 1923 to April 1, 1929
W. C. Spruance	" " "	June 23, 1923 to April 1, 1929
L. A. Yerkes	" " "	June 23, 1923 to April 1, 1929
Albert Blum	La Cellophane, Societe Anonyme	November 20, 1924 to April 1, 1929
Henry L. Blum	" " "	June 23, 1923 to April 1, 1929
Charles J. Gillet	" " "	June 23, 1923 to April 1, 1929
Edmond Gillet*	" " "	June 23, 1923 to November 20, 1924
B. G. Paskus	" " "	June 23, 1923 to April 1, 1929
DU PONT CELLOPHANE COMPANY, INC. #2		
J. Thompson Brown	E. I. du Pont de Nemours and Company	October 28, 1929 to June 30, 1936
W. S. Carpenter, Jr.	" " "	April 1, 1929 to June 30, 1936
B. M. May	" " "	April 1, 1929 to June 30, 1936
F. W. Pickard	" " "	April 1, 1929 to October 28, 1929
Fin Sparre	" " "	April 1, 1929 to June 30, 1936
W. C. Spruance	" " "	April 1, 1929 to October 28, 1929
L. A. Yerkes	" " "	April 1, 1929 to June 30, 1936
Albert Blum	La Cellophane, Societe Anonyme	April 1, 1929 to June 30, 1936
Henry L. Blum	" " "	April 1, 1929 to June 30, 1936
Charles J. Gillet	" " "	April 1, 1929 to June 30, 1936
B. G. Paskus	" " "	April 1, 1929 to June 30, 1936

*Director of E. I. du Pont de Nemours & Company from May 20, 1929 to October 14, 1931.

Source: Corporate records of Du Pont Cellophane Company, Inc. and E. I. du Pont de Nemours and Company.

Defendant's Exhibit No. 735

DU PONT CELLOPHANE COMPANY, INC.

RELATIVE CONTRIBUTIONS BY DU PONT AND THE FRENCH GROUP TO VENTURE

In accordance with the agreement of June 9, 1923 (Government Exhibit #1001), the following capital contributions were made:

	Cash Contributed 1923-1924	Common Shares Received
E. I. du Pont de Nemours and Company	$ 866,666.69	52,000
Arena Trading Corporation	133,333.31	48,000
Total	$1,000,000.00	100,000

Of the 48,000 shares issued to the French interests, 10,000 shares were held under the terms of the Stock Escrow Agreement (Government Exhibit #402).

In accordance with this Agreement, Du Pont Securities Company (wholly owned subsidiary of E. I. du Pont de Nemours and Company which had purchased from the parent company the 52,000 shares Du Pont Cellophane Company, Inc. Common Stock on July 22, 1924) in 1927 received $100,000 representing 52/60ths of cash dividends totaling $115,384.62 on 10,000 shares Du Pont Cellophane Company, Inc. Common Stock issued in name of Arena Trading Corporation and held in escrow.

The Arena Trading Corporation also contributed "all of its, and Societe La Cellophane's right, title and interest in any and to any trademarks, patents, patent rights (including all pending patent and future applications), processes, data, knowledge, information, etc., governing, affecting or in any manner pertaining to the manufacture and/or sale of Cellophane in North and Central America". The value of this contribution was $474,364.80 computed as follows:

	Cash Contributed	Other Property Contributed	Common Shares Received	Total Contribution Per Share
E. I. du Pont de Nemours and Company				
Payments on Stock Subscription 1923-24	$866,666.69	0	52,000	$16.66
Less - Amount paid by Du Pont Cellophane Company to Du Pont Securities Company representing 52/60ths of dividends paid during 1927 on 10,000 shares Common Stock owned by the French Group and held in escrow.	(100,000.00)	0	-	(1.92)
	$766,666.69	0	52,000	$14.74

	Cash Contributed	Other Property Contributed	Common Shares Received	Total Contribution Per Share
French Interests				
Payments on Stock Subscription 1923-24	$133,333.31	-	48,000	$ 2.78
Add - Amount paid by Du Pont Cellophane Company to Du Pont Securities Company representing 52/60ths of dividends paid during 1927 on 10,000 shares Common Stock owned by the French Group and held in escrow.	100,000.00	-	-	2.08
	$233,333.31	-	48,000	$ 4.86
Value to be assigned patents, processes, trademarks, etc. contributed by Arena Trading Corporation and Societe La Cellophane to achieve contribution per share equal to Du Pont's cash contribution.	-	$474,364.80	-	9.88
	$233,333.31	$474,364.80	48,000	$14.74

When Du Pont acquired the 48,000 shares owned by the French group on March 31, 1929, it exchanged 67,200 shares of Du Pont Common (basis 1-2/5 shares Du Pont Common for 1 share Du Pont Cellophane Company, Inc. Common). The Du Pont Common thus acquired by the French group had a market value at that time of $180.50 per share or $12,129,600. In 1936, the French group still retained 57,548 shares of this Du Pont Stock.

Sources: Government Exhibits Nos. 402 and 1001
Stockholders' Ledger - E. I. du Pont de Nemours & Co.
Records of Du Pont Securities Company

1568

Defendant's Exhibit No. 736

December 6, 1922.

SECY'S #8563.

TO : EXECUTIVE COMMITTEE. Copy to Dr. F. Sparre

FROM: W. C. SPRUANCE, V.P.

THE MANUFACTURE OF CELLOPHANE IN THE U.S.

Supplementing my communication to the Committee under date of November 29th, Secy's No. 8519, and pursuant to action at the special meeting held on the 1st inst., when it was moved and unanimously carried that said communication be accepted and ordered filed and that it is the sense of the Executive Committee that this matter is of interest and that Messrs. Spruance and Sparre be requested to secure a written proposition from the French Cellophane interests for definite consideration by this Company; Dr. Sparre and the writer met Mr. Charles Gillet, Mr. Albert and Mr. Henry Blum in New York on the 4th inst.

After discussing the matter at length, Mr. Gillet agreed to confer with Mr. B.G. Paskus and formulate a written proposal, copy of which is appended hereto, with the request that the Committee consider same at today's meeting.

WCS/D W. C. SPRUANCE, V.P.

Enclosure.

M 3434

RETURN TO EXECUTIVE COMMITTEE ROOM 9069

Defendant's Exhibit No. 737

COPY

ROSE & PASKUS
ATTORNEYS

December 5, 1922.

E. I. duPont deNemours & Co.,
Wilmington, Delaware.

Dear Sirs:

Confirming the conversation which I have had with your Mr. Spruance, I beg to submit the following:

It is proposed that a corporation be organized for the purpose of exploiting the manufacture and sale of cellophane in the United States. The corporation is to have a capitalization of 100,000 shares of stock without par value. The corporation will erect a plant for the manufacture of cellophane, with a capacity for an output of 2500 to 3000 pounds per day, this being the estimated capacity of two cellophane machines.

48,000 shares of the stock of the Company are to be allotted to the French group represented by me or their nominees, in consideration of the payment to the Company of 8/60ths of the total amount of the investment required for the erection of the said plant, together with sufficient initial working capital. In addition, my group will cause to be transferred to the company all American patent rights and all necessary technical information and assistance required for the original construction and operation of the plant.

The remaining 52,000 shares are to be allotted to you in consideration of the payment by you of 52/60ths of the said amount so required for the original cost of construction and working capital.

The certificate of incorporation and by-laws of the Company thus to be formed, will contain provisions similar to those adopted in the case of the duPont Fiberslik Company so far as the same may be applicable.

I have submitted to my associates your request that the rights of the new Company include the Dominion of Canada and Central America, and as soon as I have had a reply in connection therewith shall report to you.

There will be reserved, and the new company will not have cellophane rights in connection with photographic or motion picture films.

I shall be in Wilmington on Friday of this week, and shall be glad to discuss with you all further details.

Very truly yours,

(S) Charles Gillet

BGP/HT

Defendant's Exhibit No. 739

378

NOTED

October 26, 1923.

Mr. W. C. Spruance, Vice President,
E. I. du Pont de Nemours and Company,
Wilmington, Delaware.

Dear Bill: Our files Cf and CF/C. LAY

I am enclosing you copy of letter dated August 25th, from Edmond Gillet to Paskus, which he showed me in his office yesterday. I had never seen it before and don't believe you have. I asked Paskus to send you a copy of it, but think it important enough to send you one from here in case he should overlook it.

Yours very truly,

LAY.FS PRESIDENT.

M-2D

√ Defendant's Exhibit No. 740

(273

ROSE & PASKUS
ATTORNEYS

WILLIAM R ROSE
BENJ G PASKUS
ALFRED L ROSE
JOHN E TRACY

AMERICAN EXCHANGE BANK BUILDING
160 BROADWAY
NEW YORK

RECEIVED
OCT 2 1923
L. A. YERKES

October 24, 1923.

NOTED
L. A. Y.

Mr. L. A. Yerkes,
c/o du Pont Fiberslik Co.
Buffalo, New York.

Dear Mr. Yerkes:

In accordance with the suggestion made at our conference to-day, I am sending you a copy of Mr. Gillet's letter to me dated August 25th, 1923 with reference to the proposed supplementary Fiberslik and Cellophane agreements.

Very truly yours,

B G Paskus

BGP/NT
Enclosure

B. G. Paskus

M 3439

Defendant's Exhibit No. 741A

6573a

COPY

GILLET & FILS

Lyon, le August 25th, 1923.

Mr. Benj. G. Paskus,
128, Broadway,
New York.

Dear Mr. Paskus:

I found in Paris a letter from Mr. Yerkes, addressed to Mr. Rene Bernheim, together with copy of a letter which you had written to Mr. Yerkes on August 4th and accompanying three copies of the proposed agreement between Du Pont Cellophane Cy. and Arena Trading Corporation, - this latter acting as authorized agent of "La Cellophane", societe anonyme of 16, rue du Louvre, Paris. According to your statement, this agreement is in accordance with the provisions of the original contract of June 9th.

Before signing and returning those papers, I wish to call your attention to Paragraphs 4 and 5 page 3.

If I mention these two paragraphs, it is because with reference to similar provisions of the agreement entered between the Du Pont Fibersilk Company and Comptoir des Textiles Artificiels, at one of the last meetings of the Board of Directors of Du Pont Fibersilk Company, some questions which deeply surprised me were raised by the Chairman.

Taking for example the agreement of the Du Pont Cellophane Company, paragraphs 4 and 5, page 3, are r reading as follows:

"Fourth.- DU PONT CELLOPHANE COMPANY INC. agrees to "assign and transfer to theparties of the second part, without charge, the entire right, title and interest, insofar as the Republic of Francels concerned, in and to any rights, trade marks, patents, patent rights, processes and/apparati, that may hereafter be discovered, invented or developed by it, having to do with cellophane or the processes or apparati for manufacturing or using it.

"Fifth.- Both parties furthermore agree to furnish, without charge, each to the other, all information that may be requested at any tim concerning discoveries, inventions, development, patents processes, technical data, change of processes and other and similar information relating to the business of manufacturing cellophane from viscose, but all such information shall be considered secret and confidential, and shall not be disclosed to any other person, firm and corporation; it being understood

M 3439A

COPY

and agreed that the sale or disposition at any time by the parties of the second part, or their associates or nominees, of their stock interest in said DU PONT CELLOPHANE COMPANY INC., shall not relieve the parties of the second part, and their associated, nominees or affiliated persons, firms or corporations, of the obligation of secrecy imposed under this article."

Our mind was that Arena Trading Corporation, on behalf of the French Company "LaCellophane" had to furnish to the Du Pont Cellophane Co., not only his own patents, discoveries, developments, processes, etc. but also those belonging to any of its associates or affiliated companies, firms or corporations in Europe.

On another hand, the Du Pont Cellophane Company is not entitled to make use of such processes, patents and rights outside of the countries which have been stipulated into the agreement, viz.: North America and Central America. The Du Pont Fibersilk Company has to furnish to the FrenchCompany the entire rights, title and interest to any rights, trade marks, patents, patent rights, processes and apparati that may hereafter be discovered, invented or developed by them or any of their affiliated companies and the French Company may, if she wants it, transfer such patents, processes etc. or make use of them in the rest of the world.

It was in such spirit that we had understood these provisions and we think that the same spirit must be applied to the agreement xgxx entered between Comptor des Textiles Artificiels and Du Pont Fibersilk Company. This American Company can make use of any of our patents, processes, rights etc. in the whole territory which has been reserved to it according to the agreement entered, but has no right to make use of them in any other territories or countries.

Reciprocally, Du Pont Fibersilk Company has to furnish to Comptoir des Textiles Artificiels any patents, discoveries, developments, processes, etc that may hereafter be discovered, invented or developed by it, and this for use in any plants located outside of the territories which have been reserved to Du Pont Fibersilk Company.

I would appreciate your views concerning the above matter and awaiting to hear from you, I remain,

Very sincerely yours,

Ed. Gillet,

EG/SC

M 3439 A

Defendant's Exhibit No. 743

SCHEDULE OF DRAWINGS FURNISHED TO DU PONT CELLOPHANE CO., INC. BY LA CELLOPHANE IN 1923 IN CONNECTION WITH CONSTRUCTION OF ORIGINAL CELLOPHANE PLANT

Subject	No. of Sheets	Blue Print File No.
Layout for a Cellophane plant	1	193-342
Gives general layout of plant, showing arrangement of the various pieces of equipment in the plant.		
Casting Machine hopper	11	213-93
Sheet 1 indicates the new design which improves accessibility to the interior of hopper which reduces effort required in cleaning		
Sheet 2 gives details of the hopper frame		
Sheet 3 shows in cross-section the arrangement for manual control of hopper lip setting to improve uniformity of film thickness		
Sheet 4 gives details of hopper frame (opposite hand to sheet 2)		
Sheet 5 shows the full assembly of the hopper		
Sheet 6 shows method of mounting the hopper lips and gives detailed dimensions for fabrication		
Sheet 7 gives detailed dimensions of supply end of hopper		
Sheet 8 gives detailed dimensions of intermediate spacer		
Sheet 9 gives details of manual control mechanism for adjusting lips		
Sheet 10 gives details of manual control, lip end blocks and clean out hole cap		
Sheet 11 gives details of streamlined filler piece between frames		

Source: Du Pont Engineering Department Files.

Subject	No. of Sheets	Blue Print File No.
Casting Machine	45	193-343

Sheet 1 shows method of lead covering dryer rolls

Sheet 2 shows contour and length of viscose hopper lips

Sheet 3 gives dimensional proportions of floating dryer roll and the non-floating dryer transfer roll

Sheet 4 indicates the adjustable features in the viscose hopper slide to locate hopper in both vertical and horizontal planes

Sheet 5 shows method of draining hot water from heated lower dryer rolls and construction of the gland to prevent leakage

Sheet 6 shows gearing and belt drive to dryer rolls

Sheet 7 shows a cross-section of an improved type of viscose hopper indicating a method for manual adjustment of lips to control uniformity of film thickness

Sheet 9 Foundation plan in the building for the casting machine

Sheet 11 indicates the path of film from the extrusion hopper to the dryer through the successive stage of the setting process

Sheet 12 shows a later development in the use of sheet metal to replace wood in the construction of wet end tanks

Subject	No. of Sheets	Blue Print File No.

Casting Machine (continued)

Sheet 13 is a typical cross-section through the wet end of machine showing how upper and lower rolls are driven and how lower roll shafts are sealed to prevent leakage

Sheet 14 shows assembly of the motor drive for the machine

Sheet 15 shows steam heating lines to the dryer air circulating system, including condensate return lines to power house

Sheet 16 shows how the wet end upper rolls are driven through a variable speed, cone-pulley drive from the lower rolls

Sheet 17 is a detail drawing of the base casting for wet end upper roll drive

Sheet 18 is an assembly drawing of the drive between the lower and upper rolls at the dryer end of the wet end

Sheet 19 is a detail of the wet end upper roll main frame

Sheet 20 is a detail of the opposite hand casting to that shown on sheet 17

Sheet 21 shows the side elevation of the gearing for driving the upper and lower rolls on the wet end

Sheet 22 is a plan view, showing upper rolls on wet end and the gearing which drives both upper and lower rolls

Sheet 23 is a detail of the bearing bracket for the wet end roll drive

Sheet 24 shows arrangement of the ventilating hoods over the tanks on wet end of machine

Subject	No. of Sheets	Blue Print File No.

Casting Machine (continued)

Sheet 25 is a detail drawing of the short cast iron frame for supporting bearings on the upper roll shafts on wet end

Sheet 26 (opposite hand to casting on sheet No. 25)

Sheet 27 indicates the use of wooden guards to protect the operator from the open gears to the upper rolls on wet end

Sheet 28 indicates a method of lubrication for wet end upper roll driving gears

Sheet 29 shows the side elevation and cross-section through the dryer, giving the method of hot water heating for the lower dryer rolls, also the construction of hot air ducts in the dryer

Sheet 30 shows sections through an improved design of viscose hopper, indicating a more accessible interior viscose passage for easy cleaning

Sheet 31 shows arrangement for adjusting and aligning the fixed hopper lips on the improved design

Sheet 32 shows a mold for producing the lead covering for the rolls on the wet end of machine

Sheet 33 is an assembly showing method for producing variable speed in winding the finished product on rolls after drying

Sheet 34 is an elevation, showing gearing which drives the upper and lower tank rolls and the squeeze rolls at the last tank before the dryer

Subject	No. of Sheets	Blue Print File No.
Casting Machine (continued)		
Sheet 35 is a side elevation showing the arrangement of rolls and frames on the operating side of the wet end		
Sheet 36 is a detail of the main frame on the drive side of the wet end		
Sheet 37 shows the assembly of the drive side of the first tank at the wet end		
Sheet 38 shows construction and gear drive for large transfer roll between tanks on wet end of machine		
Sheet 39 shows construction of trunion on drive side of heated roll in dryer, method of supplying water and the gland to prevent leakage		
Sheet 40 shows construction of new design viscose hopper journal and method of rotating the hopper		
Sheet 41 shows assembly of gears and guard to the first roll in tank number one on wet end		
Sheet 42 shows detailed construction of tanks on wet end		
Sheet 43 gives a general view in plan and elevation of the entire length of the pellicule machine, indicating the path of the film through the machine		
Sheet 43A gives detailed dimensions for viscose hopper lips of improved design		
Sheet 43B is a bill-of-material for the improved design of viscose hopper		
Casting Machine details	9	213-3
Sheet 1 gives overall elevation of dryer, length, height, number and location of rolls, size and location of air supply and exhaust ducts		

Subject	No. of Sheets	Blue Print File No.
Casting Machine details (continued)		
Sheet 2 indicates how lower rolls on the wet end of machine are driven		
Sheet 3 shows a typical cross-section through the wet end, indicating guards are necessary over gears		
Sheet 4 is a longitudinal section through wet end of machine and indicates the basic film speed at the hopper with the possibility of increasing or decreasing the basic speed at subsequent points in the machine		
Sheet 5 shows details of a spring latch for doors		
Sheet 6 indicates that squeeze rolls can be manually disengaged at the operating end of the rolls		
Sheet 7 indicates how power is transmitted from main drive shaft to the upper rolls on the wet end of the machine		
Sheet 8 is a detail of wet end lower roll drive support bracket		
Sheet 9 shows drive end of squeeze rolls with manual separation		
Casting Machine assembly drawings	6	213-8
Sheet 1 shows drive arrangement for tanks 1 to 3 inclusive, relative roll speeds and direction of rotation		
Sheet 2 indicates film travel in the hopper tank with four possible arrangements, with film under tension and with film relaxed		
Sheet 3 gives details of the upper roll bearing on operating side of wet end		

Subject	No. of Sheets	Blue Print File No.
Casting Machine assembly drawings (continued)		
Sheet 4 shows operating side of wet end lower tank roll bearing with method used to seal against leakage		
Sheet 5 gives detailed dimensions of operating side wet end lower tank roll bearing		
Sheet 6 shows location and drive arrangement for the upper rolls in tank No. 1		
Casting Machine dryer assembly	1	213-31
Shows the plan and elevation of dryer, diagram of main drive connection between wet and dry ends and arrangement for recirculating air through the dryer.		
All steps in the preparation of viscose, including steeping presses, shredders, barattes, mixers, storage tanks, ripening cans, filters, and plant layouts and arrangements (not listed in detail)	127	193-1-5, 8, 10-15, 19, 26, 339
Dyeing, cutting and embossing machines (not listed in detail)	11	193-340,341 213-86, 87

Defendant's Exhibit No. 744

Copy: Mr. W. B. Banker,
Construction Division.

July 31, 1933.

Mr. M. du Pont Lee, P. M.
Du Pont Fiberseilk Co.,
Drawer "B" Station "B"
Buffalo, New York.

OUR FILE WRH - PROJECT 12101
CELLOPHANE

Dear Sir:

We are sending you herewith copy of a letter from Mr. Edwin Brandenberger of the La Cellophane Company dated July 18, 1933, with reference to the Pellicule Machines, which we thought you might desire to have in your files.

Yours very truly,

ENGINEERING DEPARTMENT,
W. R. Hope.

WRH:WEM

Copy.

La Cellophane

Besons, France,
July 12, 1923.

Project 7/31/23

Mr. W. C. Spruance, V. P.
E. I. duPont de Nemours & Co.,
Wilmington, Delaware,
U. S. A.

Dear Sir:

In consequence of the various conversations which the writer has had the honor of having with you, we are sending you herewith, for the attention of Mr. Hope, a detailed report on our mechanical service and several designs.

We are giving you also a few supplementary explanations in the following:

Film Machine

We are sending you a new design.

Coagulating Tank:
There is a slight modification of Mr. Hope's proposition; we will send you a detailed study of this subject within two weeks.

Sulphuric Acid Tanks H_2SO_4 No. 2 & 3.
It will be necessary to place the upper drives on the lower foundations so that they will be at the height of the tank. (See our drawing).

Upper Drive
All the upper drives of the machine, that is, of the tanks 4 to 14 comprising it, ought to be lowered 8 c.m. It will be necessar to decrease also the length of the shafts, in accordance with drawing P-183. The upper supports, on the service side, are to be modified according to the drawing.

Third Washing Tank
We recommend as you suggested, a tank with water (No. 14) put in before the glycerine.

Glycerine Tank No. 15.
It is necessary to lower the upper drives as in the case of tanks 2 & 3 (See drawing TP-184).

Control of the Film Machine
The wheel of the coagulation tank should have a velocity of 12% less than the normal velocity of the machine.

The upper control of the tanks 9 to 14 should be fixed, normal velocity.

The upper control of tanks Nos. 1,2,& 3 is fixed and should have the same velocity as the lower wheels; the control of the upper wheels of tanks Nos. 4,5,6,7,&8 should be provided with cones so that their velocity may be varied. It will therefore be possible to

Copy
to: Mr. W. C. Sprunce, from Besons, France, July 13, 1933.

Squeeze Rolls

A squeeze roll must be placed after tank 3. Its speed will be 2% less than the normal speed of the machine. A squeeze roll must also be placed after tanks 8, 9, & 11. These squeeze rolls will turn at the normal speed of the machine.

Glycerine Tank No. 15.

The speed of the squeeze rolls placed at the point of entrance and of leaving should be 8.5 % less than the normal speed of the machine.

Power

To develop normal speed, the film apparatus must have 25 - 30 H.P.

DRYING MACHINE

Air Circulation

We are sending you a plan.

Look for Slide-bars

We no longer use counter-weights, but bolts instead. We are sending you a plan in detail.

Very respectfully,

(S) E. Brandenberger.

TREASURY DEPARTMENT.
Customs Form 5419.
C. D., Apr. 28-28.

DUPLICATE

RECEIPT TO IMPORTER FOR DUTY PAID ON MERCHANDISE IMPORTED THROUGH THE MAILS

Reg. 1210 1 7/31/23

Port of 7/23/23, 192

Country Finland Importer W. C. Spinnaker

Sender Cellaforme Address of Importer c/o Dupont Co. Wilmington Del

No. of Pkgs. 1

Quantity and Description of Merchandise	VALUE	RATE	DUTY
Blue Prints	2 00	25	50
Internal Revenue Tax, Act November 23, 1921,			25
		Total	75

Paid by W. C. Spinnaker

Received payment on Duty as above

Nº 183282

Signature of person making collection

THIS RECEIPT TO BE DETACHED AND GIVEN TO PAYOR

All articles imported through the mails, as presents or otherwise, are subject to the duties provided by the tariff act

U. S. GOVERNMENT PRINTING OFFICE : 1955 O - 133342 (vol 7)